

104
FEDERAL AVIATION ADMINISTRATION RESEARCH,
ENGINEERING, AND DEVELOPMENT FISCAL
YEAR 1997 AUTHORIZATION AND MANAGE-
MENT REFORM

Y 4. SCI 2:104/46

Federal Aviation Administration Res...

HEARING
BEFORE THE
SUBCOMMITTEE ON TECHNOLOGY
OF THE
COMMITTEE ON SCIENCE
U.S. HOUSE OF REPRESENTATIVES
ONE HUNDRED FOURTH CONGRESS
SECOND SESSION

APRIL 18, 1996

[No. 46]

Printed for the use of the Committee on Science



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FEDERAL AVIATION ADMINISTRATION RESEARCH, ENGINEERING, AND DEVELOPMENT FISCAL YEAR 1997 AUTHORIZATION AND MANAGEMENT REFORM

THURSDAY, APRIL 18, 1996

U.S. HOUSE OF REPRESENTATIVES,
COMMITTEE ON SCIENCE,
SUBCOMMITTEE ON TECHNOLOGY,
Washington, DC.

The subcommittee met at 1:40 p.m. in Room 2325 of the Rayburn House Office Building, the Honorable Constance A. Morella, Chairwoman of the Subcommittee, presiding.

Mrs. MORELLA. I'm sorry that we were a bit late with roll call votes and phone calls from offices and constituents, some of whom I have before me right now.

So I'm very pleased that we open this meeting and I want to say good morning to Mr. Hinson, Dr. Donohue. I'm certainly pleased to convene this hearing on the Fiscal Year 1997 Authorization of the FAA's Research and Development Activities.

Today we are planning to review initiatives directed toward radically reforming FAA's research and acquisition management.

Also, we will entertain testimony relating to the President's fiscal year '97 budget request. Although, in my view, the amount of funding or how it's allocated will not really be the central issue facing FAA leadership.

During our previous hearings this past May and December, this subcommittee received testimony from the FAA, OTA, GAO, NASA, NOAA, NTSB, advisory groups, trade associations, and contractors about FAA's legendary problems in modernizing the national air space system.

Over the years, FAA and others have blamed these perennial problems on procurement roles, government regulations, personnel hiring and firing practices, the contractor, bad luck, and other things.

Certainly these external factors probably were contributors but significant evidence also points to more fundamental issues actually within the FAA itself, issues such as management and leadership, organizational structure, reward systems, work force competencies, culture and the like.

However, there is one common theme. Significant improvement and modernizing our country's air traffic system requires fundamental changes in FAA's acquisition management.

And acquisition is more than just procurement. Acquisition means full life cycle. We don't buy research and development like we would buy government pencils, and work force competence is more than the number of degrees the manager has accumulated.

Nonetheless, this Congress has taken unprecedented steps to help the FAA put its procurement and personnel house in order.

The fiscal year '96 Department of Transportation Appropriations Act directed the FAA to develop and implement new acquisition and personnel management systems and specifically excluded the agency from eight major provisions of acquisition law and essentially all government employment practices.

So now the FAA has a blank check to overhaul its acquisition and personnel systems. And so we move from there.

Unfortunately in the past, the FAA has proven to be like the used car. It won't run by itself except downhill. FAA acquisition management reform is going to take more than politically correct jargon and buzz words.

Revolutionary changes require bold, aggressive, visionary leadership based upon sound guiding principles and an unswerving commitment to excellence.

I believe these guiding principles, which we are here to discuss today, should be committed to statute to provide the legislative foundation for future activities long after our tenure has ended.

And the leadership challenges are yours, as you know, Mr. Administrator. The acquisition management plan that you submitted to Congress on April 1st is a very impressive first step.

There are of course obstacles ahead. Nevertheless, you are in an enviable position in that you have the unique opportunity and the leadership skills to transform a bureaucratic agency, long overdue for change, into a world class standard of excellence for the 21st century.

That's why we are here today, not on a partisan mission but rather to bring discipline and accountability to programs that have drifted in the wilderness sometimes, and the challenge is yours, gentlemen, Director Hinson and Dr. Donohue.

And we in the Congress and the American public also have a challenge and we are standing by also to work together.

And so I thank you for being here.

I would like to now yield time to Congresswoman Johnson.

Ms. JOHNSON. Thank you, Madame Chairwoman, and thank you for calling this meeting and to Ranking Member of the Full Committee Brown, thank you for being here.

I want to welcome Administrator Hinson and Dr. Donohue to this afternoon's hearing on the fiscal year '97 Research and Development Request for the Federal Aviation Administration.

The FAA faces the challenge of increasing the capacity and ensuring the safety of the national air transportation system, in face of rapid technological change and an increasingly globalized aviation industry.

In addition, modernization of the air transportation system offers great economic benefit.

An example. The Office of Technology Assessment calculated that a one percent reduction in flight time due to more efficient flight paths would yield the U.S. industry a savings of \$250 million.

Aircraft manufacturers estimate they could save between \$800 million to \$1 billion if there were uniform international standards.

And if satellite navigation and communication technologies, along with an advanced traffic management system were fully implemented, the U.S. airlines could save \$5 billion annually.

R&D are important tools FAA will need to meet these challenges and these goals. However, I am concerned that the fiscal year '97 budget request continues downward and R&D funding trends for fiscal year '97 appropriated levels.

The fiscal year '97 research, engineering development request is \$67 million less than the fiscal year '95 level. The engineering development, test and evaluation account of the facilities and equipment account has been reduced by \$228 million from the fiscal year '95 levels.

FAA's total R&D funding will be reduced by more than a third in just three years.

The question is whether FAA can adequately meet the goals and meet its goals to modernize the air traffic system with R&D resources available.

During this hearing, I hope that we can gain a better understanding of FAA's R&D planning process and the basis for the allocations in the current budget request. I want to hear the views of the witnesses on the impact of R&D cuts will have on major program areas in fiscal year '97 and beyond.

Finally, I'm interested to what extent FAA consulted with the representative stakeholders in the air space system in developing budget allocations for R&D activities.

Again, I want to thank Chairwoman Morella for holding this authorization hearing, and I look forward to the testimony.

Further, Madame Chairwoman, I want to convey that Mr. Tanner sends his apologies. He had to return to his district unexpectedly and I know that he's worked with you on this authorization language for FAA and I would like to ask unanimous consent to submit his statement for the record.

Mrs. MORELLA. Yes, indeed. Without objection, it will be submitted for the record.

[The prepared statement of Mr. Tanner follows:]

STATEMENT OF HON. JOHN S. TANNER (D-TN)

SUBCOMMITTEE ON TECHNOLOGY

COMMITTEE ON SCIENCE

FEDERAL AVIATION ADMINISTRATION RESEARCH, ENGINEERING, AND DEVELOPMENT
AND MANAGEMENT REFORM

18 APRIL 1996

I want to join Chairwoman Morella in welcoming our witnesses to this afternoon's hearing on the FY 1997 Research and Development budget request for the Federal Aviation Administration (FAA).

It is essential for FAA to develop and deploy new technologies successfully in order to meet its responsibilities for the management and operation of the evolving national airspace system. The FAA's research and development (R&D) programs must provide the framework for the technology that will increase the capacity and efficiency of the airspace system, while ensuring its safety and security.

Today we will review the FY 1997 R&D budget request and according to Office of Management and Budget (OMB) guidelines, I believe that this includes activities within the RE&D budget account as well as the Engineering, Development, Test and Evaluation component of the Facilities and Equipment (F&E) account—generally referred to as Activity 1 of F&E.

Following the trend of the FY96 budget, the FAA's FY 1997 budget request continues to decrease R&D funding below FY95 levels. Although the RE&D account gains an additional \$10 million over last year's appropriation, it is still a 24% cut from FY95. And Activity 1 of the F&E is projected to decline 42% from the FY95 appropriation. In view of these budget declines, I hope we can find out today if the FAA can adequately meet its needs to modernize the air traffic system and whether the priorities identified in the budget request address the most critical research issues.

The FAA R&D portfolio must achieve a balance between long-term research aimed at solutions to future problems and emerging operation requirements, and the short-term research needed to successfully deploy new technology. In addition, the FAA research agenda must include the views of all of the stake holders in the system, as well as the related R&D efforts of other Federal agencies.

I am also interested in FAA's R&D planning process and the rationale for the allocations in the current budget request, and I hope to determine what impact the R&D cuts will have on major program areas for FY97 and beyond. I also want to learn whether, and to what extent, the views and opinions are sought from the users of the national airspace system in prioritizing R&D activities. To put it plainly, do system users find a correlation between R&D budget allocations and their needs?

I look forward to working with Chairwoman Morella on a comprehensive FAA R&D authorization legislation.

Mrs. MORELLA. Thank you, Ms. Johnson.

You know, as I looked around, it must be my peripheral vision must not be good because the Ranking Member of the Full Committee is here, Mr. Brown, and Mr. Tiahrt will allow me to yield time to Mr. Brown. I would have earlier, had I noticed.

Mr. BROWN. Thank you very much, Madame Chairwoman. And I do not have an opening statement. I merely want to welcome our distinguished witnesses this morning, and to commend you for the way you're proceeding with this authorization.

Mrs. MORELLA. Thank you.

Mr. Tiahrt, thank you for your courtesy and if you have any opening statement?

Mr. TIAHRT. Well, I'm just glad to have this opportunity and appreciate it, Madame Chairwoman and am anxious to hear from Administrator Hinson and Dr. Donohue.

Mrs. MORELLA. Thank you.

Mr. Hinson, it's all yours now, and Dr. Donohue, I had you, my old Boston accent came through and I called you Donohue.

Dr. DONOHUE. Well, that's okay.

Mrs. MORELLA. And I thought I didn't say anything wrong.

Dr. DONOHUE. It works for me.

STATEMENT OF DAVID R. HINSON, FEDERAL AVIATION ADMINISTRATOR; ACCOMPANIED BY DR. GEORGE L. DONOHUE, ASSOCIATE ADMINISTRATOR FOR RESEARCH AND ACQUISITIONS, FEDERAL AVIATION ADMINISTRATION

Mr. HINSON. Thank you, Madame Chairwoman and members of the Subcommittee and the Full Committee, for your courtesies.

We appreciate the opportunity to appear before the Subcommittee today, and as you have noted, Madame Chairwoman, Dr. George Donohue is with me as the Associate Administrator for Research and Acquisitions.

Also seated behind me is Admiral Irish Flynn, Associate Administrator for Aviation Security, who is here in the event there are technical issues with respect to security that we would like to have answers and that George Donohue and I do not have the answers for. We believe Admiral Flynn will.

I would like to start by addressing the Subcommittee's interest in management and acquisition reform at the FAA. We have carefully reviewed the Subcommittee's proposed bill that addresses these issues.

And we believe that the management and organizational changes we have made over the past year in conjunction with the new acquisition management system that went into effect on April 1st, fully address the Committee's concerns.

And if I may just interrupt parenthetically here for a moment to say, I'm a little bit surprised and somewhat troubled by the legislation that was sent to us that may be proposed by the Committee and I'd be prepared to discuss that in form later in the hearing.

We started the process of streamlining the FAA's acquisition system over a year ago. We took this initiative because we realized we must change the way we do business to keep pace with the needs of aviation in the rapidly changing world of technology.

We realize that in any real meaningful acquisition reform, we need relief from the stifling procurement statutes and regulations. In the meantime, we wanted to take whatever action we could internally so that we can get our own house in order.

We began by putting in place a new organization under Dr. Donohue's leadership that pulls together research, prototyping, system development and acquisition activities into a seamless process.

It provides integration across functional lines and replaces a hierarchical, stovepipe organization with a flatter, horizontal structure. This new structure emphasizes empowering employees and placing decisionmaking and accountability at the lowest levels.

Key to this new organization are integrated product teams [IPT] which bring together representatives from the various disciplines: research specialists; air traffic and airway facilities specialists; logistics, testing and contract personnel; system and specialty engineers; lawyers, and others to focus exclusively on delivering products. IPTs have life-cycle responsibility for their products, consistent, I believe, Madame Chairwoman, with your opening remarks.

Also critical to the process is early and sustained involvement on the part of our customers, representatives of general aviation, business flying and the air carriers. We must have them at the table from the beginning to help us define requirements and then work hand in hand throughout the development and implementation phase to make sure we stay on track.

We have also introduced additional oversight mechanisms at the corporate level. One of the major changes in the restructured Office of Research and Acquisitions is to provide on-going independent reviews and evaluations of all major acquisition programs. These reviews have been restructured so that each IPT program is reviewed every six months in a rigorous process that frequently lasts a full day, sometimes longer.

Only by demonstrating conclusively that their programs are ready for the next stage in the acquisition process are IPT team leaders given the green light to proceed.

And, again, if I could interrupt myself for a moment, Madame Chairwoman, there's a real current example of that in our cure notice to the Wide Area Augmentation System Development where they did not pass one of these rigorous reviews early in the process, and instead of going down the road for a year or two or three with promises of correction, only to find that we have another problem, we are acting on it in sort of the new paradigm that we have, and getting on top of that problem early.

Another feature of our new way of doing business is that we are getting away from costly and time-consuming systems development approaches of the past. Instead, we are moving toward COTS or NDI acquisitions, short hand for "commercial off-the-shelf, non-developmental items" whenever possible, and adapting equipment and systems to meet unique FAA operational requirements.

Since beginning the acquisition streamlining effort more than a year ago, we have reduced by 50 percent the number of internal regulations and directives governing acquisition. Now, with the statutory relief provided by this Congress, we can streamline that process even further.

With the new acquisition system that went into effect on April 1st, we replaced acquisition policy documents that stood more than seven feet high with a single document that exists now of about 100 pages. Actually, it could have been more than seven feet depending upon who took the picture and did the measuring. I once had them stretched out to 17 feet.

In any case, Madame Chairwoman, there were too many. Our immediate goal over the next three years is to cut our acquisition costs by 20 percent and the time it takes to acquire new systems by 50 percent.

Let me say that again.

The metric that we're going to use to measure the success of our reform effort is to cut our acquisition costs by 20 percent, and the time required by 50 percent. We not only believe we can achieve this goal, we actually can make that one even better.

And as a second order of consequence, after the first 50 percent reduction in time, we'll be working on a second 50 percent which the Blue Ribbon Panel deemed as potentially possible.

Reform has not come too soon. At a time of shrinking federal budgets and resources and growing customer demand, we must replace aging equipment and systems on a broad scale throughout the entire airspace system in the most economical way possible.

Our fiscal '97 request for RE&D is \$195.7 million. This is a five percent increase above our '96 appropriation. This funding will enable us to continue limited research and development in a number of critical areas including aircraft and airport safety, security, air traffic control, hazardous weather, and aviation human factors.

Now just a few moments, please, to discuss some of our more critical R&D efforts.

Air traffic management technology research is providing traffic flow managers real-time traffic displays and decision support tools for managing national air flows. The tools provide a capability to

manage air traffic flows in real time so that static, preventative flow restrictions are not required.

R&D contributions in this area have reduced delays by 30 percent over the past seven years.

Current R&D efforts in this area are concerned with sharing flow management information and decisionmaking with aircraft operators, in particular the airlines, as a means of assuring that traffic delays and reroutings necessary to assure safe traffic levels take into account the operational needs of the users.

In the oceanic area, we are harnessing satellite-based data link communications capability and computer-based decision support systems to increase the flexibility of traffic management operations. These capabilities will be deployed in four stages coordinated with the air carriers and our partner civil aviation authorities in the Pacific Basin beginning in 1997.

User operating cost savings are expected to amount to \$8 billion through the year 2015.

FAA approved the Global Positioning System as a supplemental navigation system for non-precision approaches in 1994.

In 1995, it was accepted as a primary system for en route navigation, and by 2002 it will be in use for all phases of flight including Category I precision approaches.

Virtually all segments of the aviation community are heavily involved in this effort. The airlines have estimated that this new capability will reduce their operating costs worldwide by \$5 billion annually.

In the weather arena, we are developing icing forecasts with significantly improved definition of the severity and location of icing conditions. Current forecasts are very general in terms of the hazard's predicted location and may block out an area of 20,000 square miles when the actual icing hazard occurs over an area of only a few hundred square miles.

In another area, the human factors program recently has produced an air carrier training program which we call AQP, or Advanced Qualification Program, that provides substantially improved training without increasing training costs. The foundation of the program is a training methodology that focuses specifically on each carrier's unique operating environment. Eight major air carriers have implemented or are in the process of implementing this new training methodology.

In fiscal '96 and '97, the RE&D program will extend this capability to the regional air carrier community.

In the general aviation area, the human factors program is investigating low cost training techniques based on relatively simple simulators as a means both for reducing training costs and improving the quality of the training received. And I might add with obvious benefit of much higher safety.

We are happy to be able to report that the Safety Performance and Analysis System, the acronym SPAS, has been deployed for test and evaluation purposes at our nine regional Headquarters and 45 Flight Standards District Offices.

SPAS analyzes aircraft certification, inspection and investigation data to identify trends that may indicate emerging safety issues associated with aircraft or aircraft systems or components.

The objective is to better focus the attention of our aviation safety inspector work force on critical areas as opposed to routine inspections.

A second generation SPAS capability will be released in mid 1997 and deployed throughout the FAA aviation safety community in 1998. This capability has been made available to the Department of Defense Air Mobility Command as well.

There are additional accomplishments I would like to describe in the areas of fire safety, aviation security technology, non-destructive inspection of engine components, and airport safety.

However, in the interests of time, I will mention only one, a new material for protecting passengers from external fires that can occur in accidents. Approximately 20 percent of fatalities occur in impact survivable accidents involving fire. The fatalities are a consequence of post-crash fires and these fires generally begin as external fuel fires which then penetrate the passenger cabin.

This spring, FAA demonstrated the effectiveness of a new insulation material as a fuselage burnthrough barrier. During tests at our technical center, researchers compared the new material, an oxidized acrylic fiber, to the fiberglass insulation currently used on aircraft. The fiberglass batting held the fire back for about two minutes. The new material provided more than five minutes of protection for the passenger cabin. That difference of three minutes can significantly reduce fatalities in impact survivable accidents.

Before closing, I would like to take a moment to discuss the way FAA intends to maximize its limited RE&D funds in this difficult budget climate. As in the past, FAA will continue to aggressively pursue R&D partnerships with industry, universities, and other government agencies.

And in fact, we'll have an announcement from Dr. Donohue a little bit later about one we were just very successful on today.

The objective of these partnerships is to leverage the agency's RE&D investment with contributions from these other sectors.

A number of vehicles are employed, including grants to colleges and universities, consortia and cooperative research and development agreements established with industry, and cooperative agreements with other government agencies.

Altogether, FAA has established partnerships with more than 300 outside organizations, the value of which is estimated at about \$25 million annually.

We have had wonderful results from these ventures and will continue to maximize our R&D dollars in this way.

This concludes my prepared opening statement, Madame Chairwoman, and we would be pleased to address your questions.

[The prepared statement of Mr. Hinson follows:]

STATEMENT OF THE HONORABLE DAVID R. HINSON, FEDERAL AVIATION ADMINISTRATOR, BEFORE THE HOUSE COMMITTEE ON SCIENCE, SUBCOMMITTEE ON TECHNOLOGY, CONCERNING THE FAA'S 1997 R,E&D AUTHORIZATION AND MANAGEMENT REFORM. APRIL 18, 1996

Chairwoman Morella and Members of the Subcommittee:

I appreciate the opportunity to appear before the Subcommittee today. With me is Dr. George L. Donohue, Associate Administrator for Research and Acquisitions.

I would like to start by addressing the subcommittee's interest in management and acquisition reform at the FAA. We have carefully reviewed the subcommittee's

proposed bill that addresses these issues, and we believe that the management and organizational changes we have made over the past year, in conjunction with the new acquisition management system that went into effect April 1, fully address all of your concerns.

We started the process of streamlining the FAA's acquisition system over a year ago. We took this initiative because we realized we must change the way we do business to keep pace with the needs of aviation and the rapidly changing world of technology.

We realized that to achieve any real meaningful acquisition reform, we would need relief from stifling procurement statutes and regulations. In the meantime, we wanted to take whatever action we could internally to get our own house in order.

We began by putting in place a new organization under Dr. Donohue's leadership that pulls together research, prototyping, system development and acquisition activities into a seamless process. It provides integration across functional lines and replaces a hierarchical, stovepipe organization with a flatter, horizontal structure. This new structure emphasizes empowering employees and placing decision-making and accountability at the lowest levels.

Key to this new organization are integrated product teams (IPT) which bring together representatives from the various disciplines: research specialists, air traffic and airway facilities specialists; logistics, testing and contract personnel; system and specialty engineers; lawyers, and others, to focus exclusively on delivering products. IPT's have life-cycle responsibility for their products.

Also critical to the process is early and sustained involvement on the part of our customers—representatives of general aviation, business flying and the airlines. We must have them at the table from the beginning to help us define requirements and then work hand in glove with us throughout the development and implementation phase to make sure we stay on track.

We also have introduced additional oversight mechanisms at the corporate level. One of the major changes in the restructured Office of Research and Acquisitions is to provide on-going independent reviews and evaluations of all major acquisition programs. These reviews have been restructured so that each IPT program is reviewed every six months in a rigorous process that frequently lasts a full day, sometimes longer. Only by demonstrating conclusively that their programs are ready for the next stage in the acquisitions process are IPT team leaders given the green light to proceed.

Another feature of our new way of doing business is that we are getting away from the costly and time-consuming systems development approach of the past. Instead, we are moving towards COTS/NDI acquisitions—shorthand for “commercial off-the-shelf, nondevelopmental items”—whenever possible, and adapting equipment and systems to meet unique EAA operational requirements, as needed.

Since beginning the acquisition streamlining effort more than a year ago, we have reduced by 50 percent the number of internal regulations and directives governing acquisition. Now, with the statutory relief provided by the Congress, we can streamline that process even further.

With the new acquisition system that went into effect on April 1, we replaced acquisition policy documents that stood more than 7 feet high with a single document of about 100 pages. Our immediate goal over the next three years is to cut acquisition costs by 20 percent and the time it takes to acquire new systems by 50 percent. We not only believe we can achieve this goal—we think we can improve on it.

Reform has not come too soon. At a time of shrinking Federal resources and growing customer demand, we must replace aging equipment and systems on a broad scale throughout the entire airspace system in the most economical way possible.

Our fiscal year 1997 request for RE&D is \$195.7 million. This is a 5 percent increase above our FY 1996 appropriation. This funding will enable us to continue limited research and development in a number of critical areas including aircraft and airport safety, security, air traffic control, hazardous weather, and aviation human factors.

I would like to take just a few moments to discuss some of our more critical R&D efforts.

Air traffic management technology research is providing traffic flow managers real-time traffic displays and decision support tools for managing national traffic flows. The tools provide a capability to manage traffic flows in real-time so that static, preventative flow restrictions are not required. R&D contributions in this area have reduced delays by 30% over the past 7 years. Current R&D efforts in this area are concerned with sharing flow management information and decisionmaking with aircraft operators, in particular, the airlines, as a means for assuring that traffic delays and reroutings necessary to assure safe traffic levels take into account the operational needs of users.

In the oceanic area, we are harnessing satellite-based data link communications capability and computer-based decision support systems to increase the flexibility of traffic management operations. These capabilities will be deployed in four stages coordinated with the airlines and our partner civil aviation authorities in the Pacific Basin beginning in 1997. User operating cost savings are expected to amount to \$8 billion through the year 2015.

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I am happy to be able to report that the Safety Performance and Analysis System (SPAS) has been deployed for test and evaluation purposes at our 9 regional headquarters and 45 flight standards district offices. SPAS analyzes aircraft certification, inspection and investigation data to identify trends that may indicate emerging safety issues associated with aircraft or aircraft systems or components. The objective is to better focus the attention of our aviation safety inspector workforce on critical areas as opposed to routine inspections. A second generation SPAS capability will be released in mid 1997 and deployed throughout the FAA aviation safety community in 1998. The capability has been made available to the DOD Air Mobility Command as well.

There are additional accomplishments that I would like to describe in the areas of fire safety, aviation security technology, nondestructive inspection of engine components, and airport safety. In the interest of time, I will mention only one, a new material for protecting passengers from external fires that can occur in accidents. Approximately twenty percent of fatalities occur in impact-survivable accidents involving fire. The fatalities are a consequence of post-crash fires and these fires generally begin as external fuel fires which then penetrate the passenger cabin. This Spring, FAA demonstrated the effectiveness of a new insulation material as a fuselage burnthrough barrier. During tests at the FAA Technical Center's full-scale fire test facility, researchers compared the new material, an oxidized acrylic fiber, to the fiberglass insulation currently used on aircraft. The fiberglass batting held the fire back for approximately 2 minutes. The new material provided more than 5 minutes protection for the passenger cabin. That difference of 3 minutes can significantly reduce fatalities in impact survivable accidents.

Before closing, I would like to take a moment to discuss the ways FAA intends to maximize its limited RE&D funds in this difficult budget climate. As in the past, FAA will continue to aggressively pursue R&D partnerships with industry, universities and other government agencies. The objective of these partnerships is to leverage the agency's RE&D investment with contributions from these other sectors.

A number of vehicles are employed, including grants to colleges and universities, consortia and cooperative research and development agreements established with industry, and cooperative agreements with other government agencies. Altogether, FAA has established partnerships with more than 300 outside organizations the value of which is estimated to exceed \$25 million annually. We have had wonderful results from these ventures and we will continue to maximize our R&D dollars in this way.

This concludes my prepared statement and I would be pleased to answer any questions you may have at this time.

Mrs. MORELLA. Thank you, Mr. Hinson.

That was a very impressive testimony. It's just like all kinds of wonderful things are happening, and I applaud you for that. I mean, you discussed the acquisition management plan and I, in my opening statement, alluded to the fact that it's a terrific document. I'm going to ask you a question about it in just a minute.

You talked about training, the training programs in terms of reducing costs of the documents, I mean the number, the number of pages of the documents, reducing costs. You're now deploying the SPAS. I mean just all kinds of fantastic things happening, and I think it's very timely that this would happen, and I certainly again applaud you for it.

I wondered with this new acquisition management system that went into effect on April 1st, if maybe, you know maybe Mr. Donohue or you, Mr. Hinson, will comment on how does it differ from past practices that FAA has employed?

What is the big difference?

Mr. HINSON. Let me set the stage, and then I'll ask Dr. Donohue to be more specific.

One of the first observations, Madame Chairwoman, that I had when I joined the FAA three years ago this June I guess, when I sort of arrived as a consultant, was that the rate at which the FAA could effectively manage technological change was not adequate, given the rate at which technology's changing today.

And in fact, as a result of my initial introduction to the FAA through the troubled AAS program, and the rescue effort that we put together for that program redirection, and my concerns about the way we do research and acquisitions and procurement, I did start in fact by asking that all the documentation that the FAA requires be brought into the office and put on the floor and stretched out. And it did stretch in excess of ten feet. We have a photograph of that.

I'd come from a large organization, McDonnell Douglas, where the acquisition document is probably not four and a half inches thick. McDonnell Douglas does about \$18 billion in revenue versus about \$9 billion in expense for the FAA, to give you some approximation.

This creates a major disconnect between the rate at which we need to be able to insert new technology and the process that's required to manage that insertion. It is from that perspective that we worked through Reinventing Government with the Vice President and others, to try to have the opportunity to put into place our own acquisition program as defined by the Appropriations Committee.

We got that opportunity of course late last year, and we spent four months in very aggressive development with not only our own personnel but experts from the outside.

The result is the document that I signed on the first of April that Dr. Donohue now uses as his reference for managing the acquisition process.

I want to tell you, Madame Chairwoman, we were very mindful of the sort of uncertainty this may create in the Congress about allowing the FAA to sort of go their own way. We understand that anxiety and we are working very hard to deal with that.

My admonition to Dr. Donohue and our entire staff is to approach this very carefully so that we do this properly, and that in

fact we will in time hold this up as a model to the rest of the federal government for introducing a more contemporary way of doing business.

We sincerely believe we can do this with the cooperation of your Committee and other appropriate committees in the Congress and with the providers in the private sector and in doing so, enhance the value to the taxpayers who support us.

That's our objective, and to provide a safe environment for the user community.

So having said that as a preamble, too wordy I'm afraid, but necessary, let me ask Dr. Donohue to be more specific.

Dr. DONOHUE. Madame Chairwoman, there are three primary areas that I think we have made significant progress in this acquisition, new acquisition management system.

The first is in the area of requirements, the second is in simplified procurement procedures, and the third is in a cradle-to-grave responsibility and accountability by our integrated product teams.

Let me say just a few words about each one of those three areas.

In the requirements setting, one of the problems that we experienced in the 80s and early 90s was what we call requirements churn, and that is inability to hold a requirement to a base line and therefore produce and test to that requirement.

We have done an awful lot in this new system to stabilize those requirements to make sure we get the proper buy-in from the operators, the users of the system, up front regarding both what the requirements should be and what the system should be tested to do.

Secondly, we have instituted a corporate level priority setting process across all the Associate Administrations of the FAA to set corporate priorities on what we buy with our limited budget and then we work to have budget stability on those programs.

One of the things that has hurt us within the FAA is the annual changing of priorities and shifting around of budgets, which greatly impede integrated product teams' ability to have an assured level of support to be able to get their job done.

The third thing in the requirements area is much more of an emphasis on commercial items, commercial off-the-shelf items. This is a very big cultural change for the FAA to try to work their systems around what can be bought affordably rather than to state their procedures and then have to develop something to meet their procedures.

The art of this is to find the proper balance. Neither one is exactly the right solution, and we are working much better in that area.

In the procurement regulations area, we are now able to develop through market surveys a list of qualified vendors as opposed to having full and open competition which requires a lot of staff work, an awful lot of time dealing with people who would like to become manufacturers but have no demonstrated track record and are hoping that the government will pay for them to become players in a market.

We now can concentrate on people with demonstrated track records and we can use previous performance as part of our criteria for the selection of those contractors.

We are now able to have full and open discussions with our potential vendors as you would in the private sector on what it is you want in the way of the product. The Federal Acquisition Regulations are very strict on the ability to communicate during a competition with the potential vendors for fear of what we call technical leveling, etcetera.

And we've worked out good procedures that the industry is comfortable with which allows us to have a proper communication of what our real needs are and therefore also what the market can supply.

This gives us an opportunity to adjust our requirements based upon what the market can supply at an affordable rate and in a much quicker time.

We have discontinued the standard requirement of demanding certified cost and pricing data. This has been traditional with the Federal Acquisition Regulations. It goes to the paradigm that everything that the government buys must be developed, and that pretty much came out of the Defense Department, where they were buying very specialized equipment and the entire Federal Acquisition System was basically keyed around a defense requirement.

In the business we're in where the commercial marketplace is moving very fast in computers and telecommunications, we can use the marketplace often times to set the price, where we can use the competition to give us a good price estimate, and therefore decrease the overhead costs of the manufacturers who do not have to provide us with very detailed cost data on everything that they're trying to sell us.

It also decreases our overhead to have to review all of that data.

And the final point is in the cradle-to-grave responsibilities of the integrated product teams. In the past, we had a big wall between the people who acquired systems and the people who had to use the systems or maintain the systems, and therefore there was not the true sense of responsibility by the acquirers of the life cycle maintenance requirements of the system, and therefore there was a lack of trust between the people who had to operate and maintain the system and the people who had to acquire the system.

By putting them on the same team, and by making that team have a life long responsibility, I think we're getting a much better product.

Mrs. MORELLA. I'm very impressed. Again, I really mean that. I don't know whether or not we had a role, also in Congress, in moving you also in that direction and your coming aboard and all of the kinds of challenges that had been faced by the airline industry.

But you made a statement also, Mr. Hinson, in your opening remarks as an aside, in response to the draft bill and I know it probably ties into some of the comments that you made, but I wondered if you might want to comment on that, and then I'll turn it over to the other members for questions.

Mr. HINSON. Well thank you, Madame Chairwoman. I would.

We, in some respects, feel like the young bird that's just been pushed out of the nest. And while I'm comfortable with it because that's my background, some of my colleagues who have spent a lifetime in distinguished federal service, may not be quite so comfortable with this new freedom that we have.

We want to make sure that we exercise it judiciously and properly. That implies that we need some time to do it. And I guess I would say I am surprised, I'm not somewhat surprised, I am surprised that legislation may be suggested to addend the authorities we've just received on April 1st.

We would hope that working with this Committee and other committees in Congress, as we go down this road together, we can answer any concerns that Congress may have without legislation, additional legislation.

We would very much appreciate the opportunity of being able to prove that we are in fact very able and capable of introducing the reform that Congress implied in the legislation that was directed our way.

Mrs. MORELLA. Well, you know, it just seems to me that the draft legislation mirrors the plan that you submitted. But what it does is it pretty much codifies it, and you may be moving in the right direction. Obviously you are. You've got a good team. But who knows what may happen in the future?

I mean the tenure has not been a long one for predecessors and all, and it's no affront to what you are doing. On the contrary, it is complimentary to what you are doing. At least that's the intent of the Subcommittee as we began to look to codifying this whole concept.

Mr. HINSON. Yes.

Well, Madame Chairwoman, I would just ask your indulgence and the Committee's indulgence to allow us to have some time to satisfy your concerns.

It just again, to say it another way, Congress just said something on April 1st, and now they're going to say something else on April 15th or 20th, or whenever it would be. The logic is hard for us to follow.

We've been working very hard to do exactly what we believe Congress suggested we do. In fact, we had 100 people here for over four months working ten-hour days and weekends to make sure we did this as correctly as possible.

We are more than willing to sit down with you and your Committee in any way you would like——

Mrs. MORELLA. Okay.

Mr. HINSON. (continuing) —to talk about this, but it is just somewhat troubling to us. We would like to have the ink get dry on the first regulation.

Mrs. MORELLA. Well, we certainly will be open to discussion. I think that would be a very good thing to do. This is just sort of like a broad, thematic approach. It's not micromanagement, which I thought you might be concerned about.

Mr. HINSON. I understand.

Mrs. MORELLA. Thank you.

Ms. Johnson for any questions?

Ms. JOHNSON. Yes.

I'd like to ask you a little bit about the R&D account.

Explain the difference between the nature of activities in the RE&D account and activity one of the F&E account.

Mr. HINSON. Congresswoman Johnson, may I ask Dr. Donohue to answer that question, please?

Ms. JOHNSON. Sure.

Dr. DONOHUE. Yes. That's a very good question. There's been a lot of discussion over the last several years about that distinction, and I must tell you that the distinction today is much different than it was say three years ago when I think some of these issues were first brought up.

About three or four years ago, there was a recommendation by our R&D advisory committee that our research account should go up to on the order of \$500 million per year.

As the accounts were growing in those years, there were money being put into both the R&D account, as well as the F&E account to do some of what I would call advanced prototyping, fairly large prototypes that are fairly expensive.

Those went into the F&E account under Activity One, which was very much set up to mirror a Defense Department type of appropriation. In the Defense Department there's something called Activity Six, which is R&D, and that has Activity 6.1, 6.2, 6.3.

For those who are familiar with that appropriation, the activities were very similar to what was called 6.3 funding. And we did much more of the 6.1 and 6.2 types of research in the RE&D account.

Today, after a number of years of systemic decreasing budgets and also the desire to manage our accounts much more tightly, we have really scrubbed the activities that are going on in the F&E account and the R&D account to the point where, today, really all we're doing in what we call RE&D account, Research, Engineering & Development, is really only research or 6.1 or 6.2 types of work, maybe very early exploratory development. But there is no development in the R&D account.

What we're doing in Activity One of the F&E account is very much in advance development and very close to going towards a contract to do a full scale development or to a buy.

So they really have got a very large distinction, and I would say that the amount of overlap that may have existed three or four years ago does not exist today. And they really are being managed separately, prioritized separately, and it's partly been the result of austere budgeting and partially also better business practice.

Ms. JOHNSON. For fiscal year '95, what was the total amount of R&D funding for FAA reported to OMB? Do you remember?

Dr. DONOHUE. In '95?

Ms. JOHNSON. Yes.

Dr. DONOHUE. Let's see if we can get that exact number. I think it's \$259 million, I believe, but we'll get the exact number for you, but that's pretty close.

Ms. JOHNSON. Now are there any activities supported under Activity One of the F&E account which would not be reported as R&D activity under the guidelines of OMB Circular A-11?

Dr. DONOHUE. I would have to go back and look at exactly that definition of that OMB guideline but not having memorized it, my sense of the spirit of the OMB guidance is that today we're not doing any research in Activity One that would be considered to be research.

Ms. JOHNSON. Thank you very much.

Dr. DONOHUE. Yes. The number in 1995, as enacted, was 259.192.

Ms. JOHNSON. Now the current funding, and I'm reading now from this document, the current funding arrangement also appears to be, it says inconsistent with OMB Circular A-11 which specifies that the agency R&D budgets be divided into the following budget categories. Basic research, applied research, and development.

Development is defined as systematic use of the knowledge and understanding gained from research for production of useful materials, devices, or methods including the design and development of prototypes and processes.

Is that going to be altered any?

Dr. DONOHUE. No, ma'am. Activity One in our F&E account is a development account and we're doing development activity by that definition in that account.

Ms. JOHNSON. Thank you.

Mrs. MORELLA. Mr. Tiahrt?

Mr. TIAHRT. Thank you, Madame Chairwoman.

I've read over your document here that you released on April 1st. Is it still in draft form? It's been signed?

Dr. DONOHUE. It's been signed and it's final release.

Mr. TIAHRT. I think what—we don't have time to micromanage, Congress doesn't have time to micromanage and I don't think they should ever. That's not I don't think the intent of what the current legislation that's pending or what was the task that was put at hand.

Overall we want a structure in place so that you can effectively procure items.

And I like a lot of things that you have in here, the integrated product teams I think are extremely successful. You address metrics. That's important.

There's a couple of things that I think the pending legislation would like to drive home and perhaps we can work that out I think in the interim, and maybe incorporate it in the document.

I think that Madame Chairwoman makes a good point when she says that we are codifying these procurement practices so that we don't ever have to in the future, you know, think about micromanaging because the structure is in place and will roll on.

When integrated product teams came about, I think reading from the old scholastic point of view or as well as the practical point of view, some of the problems that occur with integrated product teams is they don't get the authority that matches the responsibility that they're given. And second, they don't have someone who's driving them.

And when the blame comes, they tend to point at somebody else, it's their fault. And somebody does need to be held accountable in order to keep the product of the IPT in line, I think.

And in the structure that I read in the document, there really isn't like a procurement manager or a program manager, someone who drives the team to see that they meet regularly, to see that their responsibility does match their authority, kind of a stuckee, if you would. You know, whenever something goes wrong, the FAA executive, procurement executive is going to have to have somebody to designate.

In your metrics, you talk about costs and you talk about time and yet there is something about measuring cost versus time, and

I'm sure that Mr. Hinson and McDonnell Douglas that—and by the way, I like what you're doing on cost and schedule analysis, I think it's way too detailed in the way that the government puts on their suppliers now. It costs a lot of money and it's very ineffective.

But you still want, in a procurement process or in a program management process, a way of measuring progress versus costs, so that milestones are achieved.

And I think part of the reason that Congress would like to codify some of these practices is because of what has occurred in the past in upgrading your equipment in the FAA.

And I think part we all are responsible for, or held responsible for the sins of our fathers or of our predecessors and perhaps this is the direction that we're heading.

But do you have a structure in place, in your new document, do you feel confident that you have a way of managing schedule versus cost? That you have somebody that can be held accountable that this procurement process, even though it's going to be a life time from mission needs until contract compliance, and then I guess you're saying you would carry it on beyond that point in time when the management of the system, when it's totally turned over by the contractor, you would still keep the IPTs in place.

Do you have somebody that's responsible for the IPTs in holding it to cost and schedule?

Dr. DONOHUE. Yes, sir. Let me give you some details on that.

First of all, every agency is required I think by the Office of Management and Budget to have an acquisition executive who is engaged in development or acquisition.

I am for the FAA the acquisition executive and therefore to Mr. Hinson I have single point accountability for the success of our acquisition process, the training of our professionals and the delivering of our product.

Below me, I have a management team whose job is to in fact train, organize, and equip the integrated product teams with the proper people, with the proper procedures for cost accounting tracking with proper training.

Integrated product team leaders are selected to be very special people with a very wide range of skills. Their job is to assemble the proper team with the proper levels of skills and breadth of skills that are required.

The entire team is held accountable, but I must say that the leader is the one who has more accountability than anybody else.

They are the ones who come forward. In some cases, I've already removed some of the product team leaders for missing some key milestones and that does send a message to the team.

I think the team should feel some accountability for having their leader removed, but the leader probably feels that pain more than the rest of the team.

We do have, in fact, accountability. We are looking for leaders more than managers. And that's why I kind of reject the program manager mold because we must be changing our culture, and you need leadership skills which are much harder to come by and a much more difficult job to do than just be a manager.

The FAA had a strong manager program before when we had a lot of difficulties, and it was clear that that kind of strong program

management was not adequate to do the job that we had in front of us.

So I believe that our new procedures are in fact adequate. We are tracking our major acquisitions to a level five work break down structure.

We have computerized software that matches our contractors' software. We are able to track their process at level five to what we call inch stones, many times to the day at which it's supposed to be done. We track program trouble reports. We make sure that everyone of those is resolved.

This is the reason, as Mr. Hinson mentioned earlier, on our GPS augmentation system, that we were able to identify program management difficulties within the first five months of a 30-month contract because we could see that they were in fact slipping long before they had any deliverables that had to show up, long before they had any tests that would have shown what their problems were.

And we in fact did call that contractor on that, and they are working and giving us information to show how they will change their management procedures.

I believe this is a demonstration of the fact that we do now have very tight management in place.

Mr. TIAHRT. In your IPTs, do you include the contractor or a member from the contractor to participate?

Dr. DONOHUE. Once in the industry world, you would have an integrated product team, you would have your suppliers from the very beginning working on the requirements.

Because we are in the federal government and because of our requirement I think to have an open competition, and the public accountability that we have, we really can't get the suppliers in the team before the contract is awarded.

But once the contract is awarded, that contractor is a full member of our team. And we realize that we must succeed together or fail together, and work very closely with them.

That is a very big cultural change, I must say. It's a change for our contractors in many cases. It is also very much a change for our acquisition personnel. And in some areas, we're doing much better than others, but we're going through extensive team training, we're going through competency skill training, and I think we're making progress.

Mr. TIAHRT. There is a difference between the procurement and then the administration of the program, and I think you made that point clear when you involved the contractor. Certainly you do have to have a fair and open competition. I wouldn't want to advocate anything else.

When you talk about your metrics, the 20 percent in cost and the 50 percent in time, is your 50 percent based on the time you develop your mission needs until contract compliance is complete, or is it—what segment of time are you trying to compress?

Dr. DONOHUE. That's a good question.

Let me describe the acquisition process in a simple way.

We start with a requirements generation or a need determination. We go through an alternatives analysis to see how we can satisfy that need. We then go through a procurement phase, then

through a testing phase, and then through an introduction to the field, and then life cycle management of inserting new technology.

We must shorten every phase in order to go from a nominal 20-year life cycle to a nominal 10-year life cycle which is still not adequate for the rate of change of technology in our business, but that is a tremendous movement in the right direction.

So we track the item that Mr. Hinson mentioned, which is the key to our productivity or a gain sharing program which we're trying to initiate, is the time from the investment decision. It will be after the alternatives analysis has been done.

At this point, the IPT takes responsibility for delivering a product from the time of that investment decision to the time of first introduction in the field. And that's the time that we're specifically looking at, but we actually must be working on the time of all those phases.

Mr. TIAHRT. I have one more question if you will indulge me?

I just had a copy of this, the '95 FAA Plan for Research and Engineering Development. Is there one forthcoming this year?

Dr. DONOHUE. Yes, sir.

Mr. TIAHRT. When will that be available?

Dr. DONOHUE. It's in review at the Department, and as soon as we get release from the Department, we'll publish it.

Mr. TIAHRT. Okay, so you've already gotten the initial final draft written.

Dr. DONOHUE. The final draft is out of the FAA and it's at the Department at this point.

Mr. TIAHRT. All right.

Thank you very much.

Mrs. MORELLA. We were generous on time because your questioning was really good.

Mr. Brown, I'll now defer to you, sir.

Mr. BROWN. Thank you very much, Madame Chairwoman.

This discussion has been of considerable interest to me.

Going back to the terminology that you have been using, research, engineering and development, and we're more accustomed to using just R&D or research and development here.

And there is a problem in our role here as having general oversight over research and development with the terminology being used in the various departments because they're not all standard.

Defense is RDT&E, generally, which causes some confusion because we don't know how much it overlaps with R&D.

Now I understand that OMB and the OSTP, we like to use lots of acronyms here, went through an exercise to kind of standardize what was being reported by the various departments that might generally be categorized as R&D.

Is that true? Are you familiar with this exercise?

Mr. HINSON. I am not but maybe Dr. Donohue is.

Dr. DONOHUE. No, sir, I am not familiar with that.

Mr. BROWN. Well it couldn't have been a huge tornado that blew you over then.

[Laughter.]

Dr. DONOHUE. No, sir. And we are in contact with OSTP and OMB.

Mr. BROWN. The reason for that is OMB of course maintains a statistical compilation going back 50 years on R&D. And we use that here to compare military versus civilian R&D, and R&D between departments. It's sort of our method of acquisition and tracking, as you might call it. So it's important that we have some understanding of terminology.

Let me just, you, Mr. Hinson, indicated at the close of your statement that you were putting a great deal of emphasis on R&D partnerships, and mentioned that you had something like 300 and a total of \$25 million.

Just within the last week, the Council on Competitiveness has come out with a new report which has as its major focus the importance of partnerships in R&D. I hope you'll read that if you haven't already.

Dr. DONOHUE. Yes, sir. Thank you. We will.

Mr. BROWN. Because it makes it very clear that in this age that you're experiencing of reduced budgets, the only way we're going to get maximum return is through much closer cooperation and partnerships, appropriate partnerships with other sectors like the university sector, the private business sector and so forth.

And that's going to be the culture of the future, rather than what we've been experiencing in the past.

Mr. HINSON. Yes, sir.

I think it might be appropriate now to ask Dr. Donohue to talk about a partnership we were notified about today, George, probably without naming the company yet, but just a general aerospace company that's going to participate.

Dr. DONOHUE. Yes, sir.

We have had for a number of years a very large research effort in airport concrete pavement. As the aircraft are getting much more heavy, and the Boeing 777 is one example, the new supersonic transport, if that develops, will be a very heavy aircraft, there's concern about the infrastructure at airports for the adequacy of the runways and taxiways to be able to handle such large aircraft.

Because these loads exceed current elastic theory for concrete, there's been a concern that we would have to make a very large infrastructure investment to beef up the concrete at all airports that will be operating new modern wide body or high performance commercial aircraft.

We believe that new modern elasticity theory would show that in fact that our existing design code may be adequate for these large aircraft, and so there's hundreds of millions of dollars of potential cost savings to airports if we could develop a new testing machine that could validate the new elastic theory at very high loads that are typical of these new aircraft.

This is about a \$21 million investment for this test facility, and with our reduced budgets we were not able to see that we could actually complete the installation of this test facility, which was very important in international circles.

We went to the private sector to see if they could help us because this is of interest to them and their future competitiveness as U.S. industry, and we got a letter last night that promised \$7 million of industry funds to match the \$14 million that we were able to put

together to in fact allow us to sign a contract today to start the construction of that facility.

This is only an example of what we're working on in many different areas with CRDAs, and with universities and with industry to try to leverage our investment to use as many industry or universities' dollars as we can.

Mr. BROWN. Did you check about the possibility of a partnership with your sister agency over at NIST before you did that?

Dr. DONOHUE. Yes we have. And we also talked to NASA. We talked to the military, and we've been working the entire community. This facility is also of interest to the Defense Department.

Mr. BROWN. Correct.

Dr. DONOHUE. But we've studied this very carefully.

We also, I must add, are working very closely with NASA today in areas that we had to take significant budget reductions in air traffic management and human factors.

Mr. Hinson has signed an MOA with Mr. Goldin this year, and we have a very tightly coupled research program with NASA in these areas. And we very much depend on NASA's research in some areas as much as our own in very critical modernization of the air traffic control system.

Mr. BROWN. Now just amaze me by telling me how thick the concrete at a major airport has to be in order to maintain all of the strain and stress that it's under.

Dr. DONOHUE. Well it varies of course, depending upon the airfield, but it would not be unusual to have 18 inches to two feet of concrete on top of a substrate of gravel and sand, and that's steel reinforced concrete.

Mr. BROWN. Eighteen inches to two feet?

Dr. DONOHUE. To two feet. But like I said, it depends on the length of the runway and what the runway's designed for. Certainly smaller airports have less than that because they're designed for lighter loads.

There's something called an ACN aircraft concrete number that each airport is designed to.

Mr. BROWN. Thank you very much.

Ms. JOHNSON. I just want to say that the facility is welcome in the Fort Worth/Dallas, Texas area.

[Laughter.]

Dr. DONOHUE. Thank you.

Mr. BROWN. You didn't have to say that.

Mrs. MORELLA. We have one final vote for the day and then we'll be back. If you could wait so that we could have a little bit more questioning, we'll be back in 15 minutes.

Mr. HINSON. Our pleasure. Yes, ma'am.

Mrs. MORELLA. Thank you.

[Recess.]

Mrs. MORELLA. We'll now resume the hearing.

Again, thank you for waiting during the interval.

I'd like to now recognize Mr. Gutknecht for any questioning.

Mr. GUTKNECHT. Thank you, Madame Chairwoman.

I want to say that I've only been here for a year, and I was just talking with Mr. Hinson before the meeting reconnoitered here. And I said I wouldn't want his job. This is a tough job.

But I am concerned because I have had a tour of one of the air traffic control systems, one of the biggest units. It's right on the north end of my district.

And, you know, they tell me that for 20 years, we've been trying to modernize and for 20 years, I suspect, or at least we're told that the folks have come before either this Committee or a similar committee in this House and said, well, things are getting better and we're on our way.

And I know how difficult it is to change a culture of bureaucracy or an agency or a corporation, whatever.

And I guess the first question I would have is principally to Mr. Hinson. How do you see yourself actually being able to change the culture?

Mr. HINSON. Let me first thank you for the question and the courtesy. There are days when I ask myself the same question that you asked, or comment that you made at the outset.

The air traffic control system in the United States, notwithstanding the publicity that's been out there recently, and your tour of the facility in Minneapolis, I believe, is actually in pretty good shape.

The overall system reliability is in excess of 99.4 percent which means that only .6 of one percent of the time do we not have the average piece of equipment available, which is pretty remarkable.

Now within that there are some discrete pieces which have caused us some problems which we're taking care of.

But to answer your question, it's important sort of to put it in context.

In the early 80s, the original National Air Space Systems plan, NAS plan, was put into place by Administrator Helms. And in the succeeding years since 1982, appropriated moneys have totalled \$22 million—\$22 billion, rather, \$22 billion, as in B, dollars, and we spent all but about \$1.6 billion of that. And in the last decade, the number of discrete pieces of electronic equipment in the NAS system has grown from 15,000 to over 30,000.

And we added over 480 new pieces—was it 480, George?—last year alone?

Dr. DONOHUE. It was about that, yes.

Mr. HINSON. Four hundred and eighty alone last year.

The system in fact is being modernized. One of the last increments in the modernization is the new radar presentation system to the controllers. So they would clearly believe that they're late to the party, and they are. And we're trying to get them there a little bit faster.

But in fairness to my predecessors and to the way the FAA has done business in the past, while not always exemplary, it's been not bad either. And this Committee of course has been helping the FAA for many years in that context.

I asked for a little bit of information before I came in hopes that I might get a chance just to say a little bit about that, just to give you what we've got here.

We have 20—you want me to do it with yours, George?

Dr. DONOHUE. Yes. This is a better roll up.

Mr. HINSON. We have 84 new control towers that have been built in the last 20 years. Three large terminal radar control facilities

which consolidate all of the center radars or the TRACONs in areas like Southern California, Chicago, for example, and others.

We have some major switches that have been put in, and these are technical issues, and a whole host of other new pieces of equipment, some of which are important for safety.

A program that's on time and on budget, a \$1.3 billion program with over a million lines of software, is called the VSCS system which is putting new digital state of the art communications switches in all of our air traffic centers.

So a long answer to a short question, we are doing a lot to modernize the system.

I said three years ago, when I became the administrator, in a speech here at the Aero Club, that the question that's always asked is sometimes the wrong question.

That question is, you were going to take five years and spend a billion dollars to do a program, did you do it?

And often the FAA says yes. Sometimes not, but often yes.

The question we ought to be asking is could you do it in four years or three years for half the price or 60 percent of the price? That's the question we're trying to address with our new system. That is the philosophy we're trying to put into the way we propose to do business.

It is more like a private sector financially-driven and oriented management. It says basically, look, if we think it takes five years and a billion dollars, could we do it in three years and spend \$750 million, and have the same level of reliability and system performance.

Mr. GUTKNECHT. If I could pursue that for a minute, though. I've heard a little bit about the experiment that's going on in Indianapolis. And it seems to me that one of the things, if you're going to try and change the culture—and I just want to bounce this off you—is that you've got to get away from thinking in terms of air traffic control and getting into air traffic management.

Is that on your radar screen?

Mr. HINSON. In fact the concept of free flight, which I'm sure you heard about when you were there and you may be familiar with, more properly called perhaps dynamic traffic management or some other appropriate name, is just traffic management, as opposed to air traffic control.

I can ask Dr. Donohue to comment as well. We're going to have by 2015, our forecast suggests, 40 percent more discrete flights than we have today. For every 100 we have today, we'll have 140 by 2015.

That is a very large challenge for this agency. And we're going to have to run very hard to provide an efficient air traffic environment.

The way we do it today is probably not adequate for what we will need in the future. Hence, our direction of free flight or what we call dynamic air traffic management.

I can discuss that to any degree you would like.

Mr. GUTKNECHT. Well, I want to come back to it. I think there is a difference. Words have meaning and they do speak volumes about what the general direction and the vision is. And there's a

big difference, it seems to me, between air traffic control and air traffic management.

Mr. HINSON. Yes, there is.

Mr. GUTKNECHT. There's a big difference between the two philosophies.

So you do see the agency moving to air traffic management?

Mr. HINSON. I'll ask George to comment.

Dr. DONOHUE. Yes, sir, I'd like to comment on that.

If you've been to the Indianapolis Center, and you've seen what I call the advanced decision support systems that are being prototyped there, those are very advanced prototypes. Those are final tests before we start writing hardened production code. That all will get merged into the new computer systems that are going into those centers, and so there's a timing issue. Around the year 2000, we'll have the full capability to start utilizing the software that we're prototyping there.

I call that not automation but decision support systems, and that is because we're not going to take the person out of the loop as we move towards free flight. And there are different parts of the flight regime that require different levels of human attention.

Computers can't do everything today. We still have pilots in the cockpit for very good reasons. We will have controllers on the ground for a long time to come for very good reasons.

The work load and their productivity, however, will be enhanced by technology over time. There are paradigm shifts in the en route area. There are more opportunities to enhance, using modern technology, productivity, than you would find in the terminal area or in the tower area.

We're actually doing technology in all of those areas but in what we call low dynamic density of traffic, since safety is something that must be preserved and in fact enhanced, we can begin using some of the advanced technologies, I believe, faster than in high traffic density areas like a terminal area or in the tower, where you're working with potentially very congested high traffic airports in the future of the next ten or 15 years.

We are providing new technology to help all phases of flight, but they will be actually I think realized in productivity in different ways in different phases of flight.

Mr. GUTKNECHT. Then the final question, I mean it's sort of the capstone, and I appreciate what you're saying by the year 2020 or the year 2000, whatever the years are, but in my tour of the Farmington facility, I was taken aback when they took me downstairs and showed me the electric switchers and the vacuum tubes.

And I think on behalf of all of the traveling public, and I think people on this side of the desk travel more than the average American does, and so we have probably more of a vested interest in this, but can I say to my, when can I say to my constituents, the federal government and the FAA are going to be out of the vacuum tube business?

I mean is there a date certain for that?

And let me just say parenthetically that we won World War II in less than four years.

Mr. HINSON. Yes, I understand.

Well, to be technically accurate, it will be a long time before we're out of the vacuum tube business because some of the newest equipment in the world for everybody in every country has vacuum tubes.

It is more of a symbol of where we used it in the older equipment than the newer equipment. There are some applications of vacuum tubes that are appropriate even in today's technology.

But the way you are asking the question, when we finish the installation of the display replacement or what we call the display system replacement, most of those will be gone.

That will be in the next three to four to five years. They'll be all out of here essentially.

Is that right, George?

Dr. DONOHUE. Well, the easier thing to modernize is our centers. We have 21 centers and those will be completed pretty much with the major modifications by the year 2001. It takes several years physically to do the installations.

In the terminal area, we have about 170 TRACONs that must be fully modernized. And just due to the number of people who can install the equipment, it will take about five years to get the full national system installed.

We are hoping to start in the latter part of '98 but that will go through the year 2003 to get all of those centers installed. It's a massive system and so it does take time. And that's doing parallel installation. So you'll have multiple centers under installation at any one time.

It takes about a year to do the installation for some of these pieces of equipment.

Mr. HINSON. One other comment I would like to make, if I may. It has to do with sort of a philosophical view of the way we're doing business.

In the early 80s when we started to do the NAS plan, the concept was, we'll spend \$7 or \$8 billion, as I recall the number. We're going to have a beginning and an end. We're going to throw everything we've got out. We're going to have all new in here, and when we've fixed it, we can wash our hands and go, and we've got a system that's there forever.

We now realize that's not going to happen ever, that the system will never have an end state. That because of technological change and demands, we will be managing in an on-going system which really has no definite finish.

Because by the time we get the 50th control tower built, the first one will be 35 years old, and we'll have to go back, and other similar circumstances.

Plus computational architecture is now down to the size of your hand when it used to fill up a room like this, etcetera, etcetera, and you know all of this. So all the technology's taking us to sort of a manage-it-on-an-on-going-basis, and insert technology when and where it's appropriate.

Mr. GUTKNECHT. Thank you.

Mr. HINSON. Yes, sir.

Mrs. MORELLA. I'm pleased now to recognize Mr. McHale.

Mr. MCHALE. Madame Chairwoman, thank you. It's late and I will be brief.

Mr. Hinson, as I look behind you, I see displayed on the back wall of this room the JVX-Tilt Rotor.

A few moments ago, you were talking about air traffic control or air traffic management out to and perhaps even beyond the year 2015.

I also serve as a member of the National Security Committee and in that capacity have been deeply involved in the on-going acquisition effort by the Marine Corps, pursuant to which I think six aircraft will soon be acquired of the V-22 Osprey model.

There's some of us who believe there are tremendous civilian applications for that technology. And that indeed the impact of that aircraft could be extraordinary in terms of how we manage our air space and even construct our airports in the years ahead.

In that context, would you comment upon how you believe tilt rotor technology, the ability of an aircraft to take off vertically and fly horizontally, will impact upon the commercial aviation industry and specifically your agency in the years ahead.

Mr. HINSON. Well thank you for the question, Mr. McHale. You know we have this committee that we're a part of, there's a committee that's specifically set up to address on an on-going basis the application of tilt rotor technology to civil or private sector use.

I should also tell you that I've been down to Pax River where I've flown the simulator. I spent a lot of time down there understanding the airplane itself, since it's what I used to do for a living. I expect to fly the real article in the not-too-distant future. That's one of the nice parts about the job, I guess.

I was very impressed with the cockpit technology from a flying perspective. It's very interesting and relatively easy, I might add.

The potential application of this airplane to air traffic control problems of course specifically deals with the capacity issues of airports in short haul markets, the New England corridor, the North East corridor, the Florida environment, the Southern California environment.

Mr. MCHALE. I can assure you the Allentown, Bethlehem, Easton environment.

Mr. HINSON. Yes, sir.

Mr. MCHALE. The district that I represent, we have a large and expanding airport that faces exactly this challenge where right now we are land banking, wisely or unwisely, property for future use for the construction of runways.

I have simply presented to our airport authority and to the executive director of that airport really a typical airport of the type that you were describing, that the change in the tilt rotor technology may be such that we won't need that land for runways. As a regional airport, we may need helipads for the V22 or equivalent aircraft to take off and fly to a larger airport from which you could make international connections.

So the point you make is one that is directly relevant to the airport located in my district.

Mr. HINSON. Exactly. And we, the FAA, are working closely with the other members of the Committee from the Department of Defense, and the manufacturer and others to talk about the application of the airplane.

For our part, from a regulatory perspective, we're going to do everything we can to facilitate that airplane's entry into the civil sector.

You want to comment on it? Go ahead.

Dr. DONOHUE. One of the things that's going to be necessary to use tilt rotor is to develop different flight trajectories which are acceptable from the noise/environmental standpoint, very steep trajectories.

We need to develop air traffic control procedures and also the ability to do tracking of these aircraft in highly congested environments where radar tracking doesn't work very well.

To that extent, all the new technologies we're working on I think are going to be required to make the tilt rotor aero technology work together as a total system for a short haul transportation system.

We're doing a major experiment this year in Atlanta, Georgia, for the Olympic games, called the Atlanta Short Haul Experiment, where we're working with helicopter corridors at low altitude using Automatic Dependent Surveillance Broadcast, using GPS tracking, new data links, and in getting steep approaches developed that are things that really play to the advantage of vertical takeoff and landing in a non-traditional airport setting.

So there are many enabling technologies and procedures that have to be developed before I think the whole system will start playing in the civilian market, as well as getting the weight of the aircraft down.

As you know, they are now trying to work for a civilian version which will be a lot lighter aircraft, better range, payload, etcetera, than the military version.

Mr. McHALE. I'm encouraged by your responses. I think both in terms of procedures and technology, we're looking at a fundamental change in the way in which we fly passengers in areas that are heavily developed, such as the northeastern part of the United States.

And I think we have to, as we look down the road, and I'm pleased that your vision extends two or three decades out, as we do that, we have to bear in mind that this very fundamental change in technology I think will have a revolutionary impact upon how we fly passengers from point A to point B, with point A being Allentown, Pennsylvania.

Thank you very much.

Dr. DONOHUE. Yes, sir.

Mrs. MORELLA. Thank you, Mr. McHale.

Speaking of tilt rotor and the kind of noise that's also part of it, I would like to segway into a topic of interest to people in our greater community in that there is a noise factor from National Airport, Dulles and BWI.

Pursuant to congressional direction, FAA is engaged with NASA in a research project to develop quieter aircraft. And recently, FAA has been looking at reducing its participation and NASA is carrying almost all the cost.

I just wondered about what you see as FAA's participation, what is the status of that in that research, and then of course I guess this would tie in to how important you see noise abatement research.

Mr. HINSON. Well let me say, before I ask George to help me, Madame Chairwoman, that noise research is very important for us. We've been at the forefront of it. In fact, with FAR-36 20 years ago, we set the first noise standards for communities in the United States. And that's been one of the basic references in the intervening years.

Technology not only for quieter airplanes from an airframe standpoint, but quieter propulsion systems as well.

The tradeoffs we make in where we put our moneys are the classical tradeoffs that we all face, which is we have to prioritize or try to, in an intelligent fashion, where we put our money. And we would like to spend a lot more on everything we do if we had it.

So having said that, let me ask Dr. Donohue to comment perhaps about where we are in this area.

Dr. DONOHUE. Madame Chairwoman, as you know, all the agencies are taking reductions in their research budgets. NASA has taken less of a reduction than we have in the last year. In many areas we must rely more heavily on NASA to carry the research part of our work.

Our research budget has gone down much faster than our F&E account or our development budget. And this the area, the noise area, is in the research area.

We are trying very hard not to have to get completely out of that area, because it's important that the FAA remain at the table with NASA, because we are ultimately the one who has to certify, we're the one who has to work in the international community with noise standards.

It is very much in our interest, collective interest, to reduce the noise levels, to increase the noise standards, and do that in the best technical way possible.

But we are required, because of the very large reductions in our budget, to have to just rely much more on NASA's investment in these areas. And they also have a lot of the technical competency in this area.

Mrs. MORELLA. It sounds as though, although you say it's a high priority, that in prioritizing, you don't see it as a really high priority?

Dr. DONOHUE. Madame, we actually have a number of areas that we have to have as our priorities. Safety is number one priority for us, and so as we go through a very tough prioritization process, we have to leave that as the number one priority. Environment and capacity are right up there with productivity in what we have to do with our investment.

Because again, as Mr. Hinson has pointed out, our work load is increasing at an exponential rate, our funds are going down, and so we must be increasing our productivity in order to be able to meet our work load.

So we're really trying to balance off many competing priorities, all of which are very high to us, and we're trying to look at who has the best expertise to be able to get the most efficiency out of their investment.

Mrs. MORELLA. Is there anything we can do to help in that regard, because it needs a steady stream. It needs a commitment. It's long range. I think it's on schedule, from what I understand.

I would just hate to see one party renege or say, well, we just think the other party is going to handle it all.

Dr. DONOHUE. We understand that, and we're not trying to renege on any of our commitments. But NASA themselves have made commitments to us in supporting research, and because of the continuing resolution problem, they're not sure that they can meet their commitments to us in those areas as well.

We're all having a lot of difficulty meeting our previous commitments with the budgets that we're being handed.

Mr. HINSON. If I may make one additional comment. There's probably equal if not more research going on in the private sector for noise because engine propulsion manufacturers and airframe manufacturers would be able to exhibit substantial competitive advantages if their vehicle was quieter than their competitor's.

There is a lot of concern out there among manufacturers of engines and power plants and airframes that the next fellow is going to have a quieter airplane than I have and he's going to be able to sell a lot more than I can for that reason. So there are aggressive programs in the private sector for noise attenuation.

Mrs. MORELLA. Do you all have a handle on that? Is there any way we can get that synchronized?

Mr. HINSON. We don't do that of course. They come to us and say we're ready to be certified in whatever product they're talking about. And we work with them either in propulsion or in airframes.

Dr. DONOHUE. NASA technically works very closely with the engine manufacturers. Many of the technical experts we rely upon are in NASA. They know what is being done in the private sector with IRAD money for noise quieting.

We at the FAA are relatively thin in technical expertise in noise, so we've relied on NASA's technical expertise extensively over the last several years.

Mr. HINSON. We make major contributions on the operations and procedures sides as well where we work with carriers to design noise abatement procedures in the way the airplanes are flown and where engines are allowed to be run up and trimmed during the middle of the night or in the evening. There are a number of programs like that.

Mrs. MORELLA. I'd like the record to show not only my interest but the interest of many other members of Congress. Anybody who has an airport near them, and as you say, industry is interested in it too. NASA's interested in it.

If you can think of suggestions for us so that we can make sure that we follow through with this.

Mr. HINSON. We will take that task.

Mrs. MORELLA. Very good.

I do want to give my colleagues an opportunity to ask any more questions they may have, but I was curious to know. We did pass the Technology Transfer bill.

Do you work with federal laboratories?

Early on, mention was made of the CRDA situation.

Do you avail yourself of the federal laboratories?

Dr. DONOHUE. We have our own federal laboratory and we work with Sandia extensively. We work with NASA. We work with the Defense Department. We work with all laboratories in the private

sector, as well as in the federal sector, where we have similar interests in technology, and we do have a CRDA program.

Mrs. MORELLA. When this became law, it was to enhance the concept for our federal laboratories as well as the private sector to engage in CRDAs in terms of the partnership.

Dr. DONOHUE. Yes, we've been very active in CRDA agreements.

Mrs. MORELLA. Good.

I'm going to now defer to Ms. Johnson for any questions she may have.

[No response.]

Mrs. MORELLA. I guess I'll just ask you one about the personnel system that you have in terms of acquisition management.

All of the IPTs, the integrated program teams that you mentioned, I just wondered about how, what do you look for in team management personnel and how do you train your personnel?

Can you get into the personnel situation? I'm very interested in that as somebody who also represents a lot of federal employees.

Dr. DONOHUE. This is the most difficult part of the change we're trying to make. It's relatively straightforward to put in place a logical acquisition management system. It is much more difficult to get people who can utilize these freedoms and responsibilities.

It requires a lot of technical expertise in business and in technology. It requires a lot of judgment. It requires experience. It requires knowledge of many, many things, logistics, maintenance, economics, cost accounting, management techniques.

These people are in relatively short supply throughout the entire economy. We have some very good people. We have some people who have mixed backgrounds.

So I have put in place, as long ago as a year, a number of programs for training and education to start providing instruction on how one does teaming, how one does cooperative decisionmaking, how one does proper budgeting, how we do cost analysis, how we make economic decisions, how we do contract management.

And the integrated product team leaders have got to be the people who have very broad experience, very high education levels, very good judgment, and we have some very good ones. We have some who are in a developmental stage, and we probably have a few who will be replaced.

But that's a constant process. I don't mean that in a bad sense. We're always trying new people. We're emphasizing education, continuous life long education.

I think Mr. Hinson earlier said that we see ourselves as a learning organization. There is no end state to the NAS. As he said, there is no end state to our ability or knowledge to be able to manage this acquisition system.

Mr. HINSON. If I may, Madame Chairwoman, just add to that.

For the third year in a row now, when I go to OMB, and I sit down in front of that distinguished Committee as head of the FAA, they always ask me first, and properly so, what are your priorities. We'd like to hear what your priorities are for the FAA.

For the third year in a row, I have said the same thing, to ensure that the FAA has adequate intellectual capital.

This is an intellectual organization. It is a technical organization. It can only be as intelligent and capable as the people that are the FAA.

We have, for the most part, great people, but long term we need to make sure we get smarter.

And one of the things that Dr. Donohue's been able to do is get a little bit of a head start in his organization in this area. And we need to provide training resources, money, education, and we need to be very, very aggressive and selective about who we bring into the agency.

This agency is going to have to run hard to make sure that intellectually we are ahead of the industry we regulate. And for us, that's the real challenge.

Mrs. MORELLA. I would wonder whether or not, in this particular fiscal climate, with the ups and downs and yo-yo kind of environment, whether it has been more difficult to recruit and to retain.

Have you seen changes in attitude or morale?

Mr. HINSON. Let me speak from my perspective, then Dr. Donohue can talk about his particular organization.

We have been, since I've been here, not because of my arrival but marking that as the time, we have been able to attract highly qualified, highly motivated people to the FAA. In fact, there's a lot of competition for every job that we advertise or talk about.

In my travels around the agency, Madame Chairwoman, I see very high morale.

I visit with our people every place. I've been to every single air traffic control center, almost every TRACON. I've been all the way from the north end of Alaska down to our offices in Saudi Arabia, and other parts of the world.

Our people are remarkable for their professionalism and their morale. They love their agency and they love what they're doing. We've always, it seems to me, been able to attract people who are very able.

Two weeks ago, three weeks ago, on the first of April with our new authorities and personnel, the ability to hire who we would like when we would like the way we would like, at 7:30 that Monday morning, I instructed our people to hire the Director of Training from NASA to become the Director of Training for the FAA.

And I wanted to make a statement with that, that we intend to begin and continue the process that I think is significant for the agency that you correctly point out.

Mrs. MORELLA. Any comments on that, Dr. Donohue?

Dr. DONOHUE. Yes.

In the particular area that I represent, which is technology management, it has been more difficult to fill positions.

We have some very stringent ceilings on our positions whereas, in the operational work force, or what we call mission safety work force, we have gotten some relief to be able to hire people.

We have not gotten that sort of relief in my area. I have a very large need for good systems engineers, good software engineers, and good analysts who can do cost benefit analyses of a fairly sophisticated nature.

And, as I talked to my colleagues in industry, they tell me that they also have a big need for those exact same skills. They pay rel-

atively high wages, and they have the ability, in a rapidly growing economy in the telecommunications business, to be able to hire those people and pay market prices.

So we have a challenge. We are taking the people we've got, who are very good people, but in whom have under invested regarding their continued education learning over a number of years, and trying to bring them up to speed. We are working our attrition through natural attrition and trying to fill the positions that do open up with good people, but it's a difficult area for us.

Mrs. MORELLA. Have you had to downsize?

Dr. DONOHUE. We're still downsizing.

Mr. HINSON. When I was confirmed in August of '93, we had 53,000 employees. We now have 47,000 in round numbers, depending on how you measure it.

Mrs. MORELLA. No RIFs, you've done it through attrition?

Mr. HINSON. We had one small area in which we RIFed. We call it part of the air traffic staff that was surplus because of circumstances, but there were very few. All 5,100 plus people who left were a combination of voluntary retirement, early retirement buyouts, and/or just leaving for normal purposes and a hiring freeze.

So we worked very hard not to injure our employee group any more than was absolutely necessary. And I think it's been rather successful actually. That's over ten percent, we're at the ten percent range of our work force. That's a fairly large downsizing in a three-year period.

Mrs. MORELLA. Do you need the buyout opportunity again?

Mr. HINSON. We have the authority to do it.

Mrs. MORELLA. You do have the authority, you and Defense. Very good.

I want to thank you very much for being here and for spending the afternoon with us on this very important issue, the acquisition management.

Without objection, I'm going to ask that your plan be included in the record.

I look forward to working with you and your representatives as we look at the need for legislation.

Mr. HINSON. Madame Chairwoman, we thank you for the Committee's courtesies and for your courtesy especially.

Mrs. MORELLA. Thank you very much. The meeting is now adjourned.

[Whereupon, at 3:50 p.m., Thursday, April 18, 1996, the hearing was adjourned.]

[The written plan entitled "Federal Aviation Administration Acquisition Management System—April 1, 1996" follows:]



Federal Aviation Administration Acquisition Management System

April 1, 1996

AUTHORITY FOR THE FEDERAL AVIATION ADMINISTRATION ACQUISITION MANAGEMENT SYSTEM — APRIL 1, 1996

INTRODUCTION

I am inherently and expressly authorized to acquire goods, services, and property needed to carry out my aviation safety duties and powers. All of the Federal Aviation Administration's (FAA) acquisitions are in furtherance of those responsibilities. On October 31, 1995, Congress passed an act, *Making Appropriations for the Department of Transportation and Related Agencies, for the Fiscal Year Ending September 30, 1996, and for Other Purposes* (The 1996 DOT Appropriations Act). On November 15, 1995, the President signed this bill into law (Public Law 104-50). In Section 348 of this law, Congress directed me to develop and implement a new acquisition management system that addresses the unique needs of the agency. At a minimum, this system is to provide for more timely and cost-effective acquisitions. By signing this document, I am making effective FAA's new acquisition management system.

STATUTORY EXEMPTIONS

Under Section 348, I was instructed by Congress to develop and implement a new acquisition management system for FAA "notwithstanding provisions of Federal acquisition law." Congress added that the following provisions of acquisition law "shall not apply" to this new acquisition management system:

1. Title III of the *Federal Property and Administrative Services Act of 1949* (41 U.S.C. 252-266);
2. *Office of Federal Procurement Policy Act* (41 U.S.C. 401 et seq.);
3. *Federal Acquisition Streamlining Act of 1994* (Public Law 103-355);
4. *Small Business Act* (15 U.S.C. 631 et seq.), except that all reasonable opportunities to be awarded contracts shall be provided to small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals;
5. *Competition in Contracting Act*;
6. Subchapter V of Chapter 35 of Title 31, relating to the procurement protest system;

7. *Brooks Automatic Data Processing Act* (40 U.S.C. 759); and
8. Federal Acquisition Regulation and any laws not listed in (1) through (7) above, providing authority to promulgate regulations in the Federal Acquisition Regulation.

Although the combination of these provisions in Section 348 exempts the new acquisition management system from all acquisition laws, FAA has the discretion to adopt the substance of portions of acquisition law into its system as FAA deems appropriate. Unless stated specifically otherwise in this document or in legislation subsequently enacted, no acquisition statute or regulation shall apply to FAA acquisitions. The parties will, however, remain bound to the terms of any contract existing on this date unless the contract is modified by agreement of the parties or in accordance with existing contract terms.

LEGAL EFFECT OF THIS DOCUMENT

This document brings FAA's new acquisition system into effect and establishes the policies, guiding principles, and internal procedures for FAA's new acquisition system. Nothing in this document creates or conveys any substantive rights.

MODIFICATION OF THIS SYSTEM

FAA reserves the right to modify, add to, waive or delete any portion of this acquisition management system, either in whole or in part, as deemed appropriate by the Administrator or his designee. In addition to continuous improvement feedback, three years after implementation there will be an independent assessment of the acquisition management system and changes will be made, as necessary.

PENDING CASES

Unless the parties agree otherwise, all acquisition litigation timely filed and pending before forums of competent jurisdiction on or before the effective date, April 1, 1996, of this new acquisition management system may remain under the jurisdiction of that tribunal in accordance with the applicable contract or solicitation provision.


David R. Hinson

April 1, 1996

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SECTION 1 – EXECUTIVE OVERVIEW

1.1 BACKGROUND

This document presents key elements of the Federal Aviation Administration's (FAA) acquisition reform undertaken in response to Section 348 of the *1996 DOT Appropriations Act* (Public Law 104-50). This section directed the FAA to:

"...develop an acquisition management system that addresses the unique needs of the agency and, at a minimum, provides for more timely and cost-effective acquisition of equipment and materials."

The FAA is committed to reform in the acquisition of equipment and materials, and to apply the same improvements in the acquisition of services, software, and facilities. The overarching purpose of this reform is the safe, efficient, and effective operation, sustainment, and evolutionary modernization of the National Airspace System.

1.2 STRUCTURE OF THE DOCUMENT

The FAA believes significant reduction in time and cost to field high quality new products and services can best be realized if all elements of acquisition management—policy, processes, people and their proficiencies, and organization—are dramatically reengineered at the same time into a coordinated, integrated system. These changes are grouped into the following disciplines which together address all elements of FAA acquisition reform.

Section 2—Lifecycle Acquisition Management System. This section describes FAA's new approach for managing the entire acquisition lifecycle, from the evolution of mission needs to the eventual disposal of products.

Section 3—Procurement System. This section describes a new system that allows the FAA to be innovative and creative in the selection of vendors and management of contracts. All parts of the procurement process are addressed from the identification of potential sources to the awarding and administering of contracts.

Section 4—Acquisition Workforce Learning System. Acquisition reform can only succeed if the people executing and managing the system are capable, skilled, and motivated. This section describes FAA's reformed approach to learning and cultural changes needed for successful implementation of acquisition and procurement reform.

Section 5—Implementation Plan. This plan shows the overall strategy for ensuring that reforms can be immediately useful to both the FAA acquisition workforce and the aviation industry.

1.3 ATTRIBUTES

In the development of acquisition reform, the FAA has been guided by six attributes of a good acquisition management system: flexibility, efficiency, effectiveness, checks and balances, assurance of balance, and public trust. These attributes are embodied throughout this document.

1.3.1 FLEXIBILITY

The ability to make acquisition decisions based on a particular need or circumstance so that the outcome is most advantageous to the FAA and its customers.

Policy and procedures must be greatly reduced, and those that remain should be restructured to stress flexibility. Rigid and detailed acquisition and procurement policy and procedures must be replaced by best practices and guidance to the maximum extent. A fully trained and competent workforce is expected to make high-quality decisions based on the unique circumstances of the situation.

1.3.2 EFFICIENCY

Simple processes and a competent workforce that enable good decisions without undue oversight or waste of resources.

The reformed acquisition system must achieve a minimum goal of 50 percent reduction in time to acquire and field new capabilities. Greater stretch goals will be set as the initial targets are achieved. Unnecessary oversight and layers of approval are to go away. A more competent workforce will result in more efficient implementation of processes. The many individual processes should be consolidated or eliminated to increase efficiency and remove bureaucracy. Prequalification of vendors, delegation of source selection authority, and significant reduction of planning documentation are a few of the many factors that must be changed to enable the FAA to meet the 50 percent goal. Metrics and tracking will be used to verify how well this goal is met.

1.3.3 EFFECTIVENESS

Acquiring and managing products and services that work well, in a timely and cost-effective manner.

The acquisition system must stress the need to field new products and services that are effective and suitable for the customer. There must be a balance between potential requirements and what the market has to offer. Selected solutions must emphasize quality, commercial items, supportability, and phased implementation. Effectiveness is engendered by a learning organization that fosters professionals with the levels of competence necessary to make good decisions. The quality workforce must be augmented by leaders and supervisors who are equally knowledgeable.

1.3.4 CHECKS AND BALANCES

A system of program boundaries and clear monitoring techniques that identifies problems before they become unmanageable.

Integrated product teams must be empowered to execute their individual acquisition programs, but should be bounded by reporting and monitoring techniques to keep corporate management aware of problems and progress. Management must be involved throughout, using such techniques as scheduled reviews of progress and approval of program baselines and their changes. More emphasis should be placed on reporting potential problems in time for management to participate in corrective action.

1.3.5 ASSURANCE OF BALANCE

A healthy tension between the pull of requirements and the push of technology that enables the agency to best satisfy needs within realistic resource constraints.

The pull of requirements by the user community must be balanced against the push of technology by the development community. Techniques such as market analysis and capability demonstrations should be used to establish realistic requirements and baseline them as early as possible, and to translate them to stable technical specifications that directly satisfy the requirements.

1.3.6 PUBLIC TRUST

Fairness and public trust is achieved through open and honest communication with industry, the aviation community, and the public.

The people who operate the acquisition management system are accountable to users and customers for providing high quality products and services in a timely and cost-effective manner. The FAA acquisition management system shall be open, fair, and subject to external audit. The public must be able to see that their trust in the FAA is warranted and that their safety and money are not compromised.

1.4 KEY ELEMENTS OF FAA ACQUISITION REFORM

The reform changes almost every element of current practice. Reformed policies and guidelines are now simple, clear, useful, and efficient. The number of FAA documents and pages governing acquisition has already been reduced by 50 percent, and we expect to achieve a total reduction of 80-90 percent. Regulations that cause the FAA and industry to consume time and energy without adding value are eliminated. Analytical capabilities are being strengthened in such critical disciplines as mission analysis and investment analysis. Procurement reforms now permit contracts to be awarded more quickly and at much lower cost to both FAA and industry. Organizational roles and responsibilities are changed to engender partnership and cooperation between users and providers so the right products and services are delivered at the right time. Workforce qualifications and educational opportunities are reformed to increase individual, team, and organizational competence and productivity. Metrics will measure progress and identify new opportunities for delivering quality products and services faster and at lower cost.

The following is a summary of key features of FAA's reformed acquisition management system:

1.4.1 LIFECYCLE ACQUISITION MANAGEMENT SYSTEM REFORM

Creates one seamless lifecycle acquisition management system.

The new FAA acquisition policy establishes a lifecycle acquisition management system that eliminates disconnects between critical FAA needs and resource utilization. Research and acquisition programs are linked directly to the agency's most pressing needs and to the most promising technology opportunities for safer and more efficient operations. Full supportability of products throughout their lifecycle is an integral element of program implementation. Sustainment funding is included in cost baselines established at the investment decision. Operational lines of business will provide the basis for determining future needs and resource allocation. Operators and developers work hand-in-hand during every phase of the process to ensure that both users and providers agree on what is suitable before it is procured so that final products and services are what users want and need.

Explores advanced technology opportunities and non-traditional operational concepts.

FAA intends to strengthen the capability to seek out and demonstrate non-traditional operational concepts and technological opportunities that could radically improve the safety, efficiency, and effectiveness of the National Airspace System. This activity will be conducted in full partnership among developers, users, and customers.

Provides a framework for evolutionary product development.

FAA no longer intends to develop and field complex systems that must be replaced entirely when they become obsolete. This approach takes too long, costs too much, and can't deliver the latest technology. Instead, the agency is procuring systems that have an open architecture, modular design, standard interfaces, and portable software so they can evolve over time as additional capability is needed and when components become obsolete.

Stresses preference for commercial and nondevelopmental solutions to mission needs.

FAA acquisition policy mandates rigorous analysis of requirements, market capability, and affordability during investment analysis to determine whether mission need can be satisfied with commercial or nondevelopmental products as a first priority. Greater use of commercial items minimizes cost and risk, and delivers new capabilities to the user more quickly.

Streamlines policy to focus on products.

Policy that does not contribute directly and substantially toward acquiring quality products and services is stripped from the lifecycle acquisition management system. As an example, the number of decision and planning documents is consolidated from 24 to six. Most policy that remains is presented as best practices, lessons learned, and guidance for use by acquisition specialists. FAA will develop online acquisition aids that embed best practices into program planning and execution. These aids will be available via the workstations of acquisition specialists as an integrated set of tools linked directly to the lifecycle acquisition management system. These tools will greatly reduce agency overhead associated with program planning and implementation.

Streamlines agency operations to lower the cost and increase the pace of doing business.

Decision making and accountability are at the appropriate level. Decisions related to resource allocation (mission need and investment) are made by the Joint Resources Council (JRC) of Associate Administrators representing operations and acquisition. Decisions associated with program planning and execution are made within an Integrated Product Team (IPT). This approach of centralized resource decisions and decentralized implementation provides for both program stability and efficient execution. Quality is maintained

through synergetic interaction among specialists on IPTs responsible for such functional disciplines as operations, logistics, testing, and systems engineering.

Establishes a strong corporate capability for identifying opportunities and prioritizing agency needs.

Mission analysis looks forward in time so the agency anticipates and reacts to shortfalls in capability before they become operational problems. It also identifies technology opportunities that may allow the agency to perform its mission more efficiently and effectively. By taking a larger view of need and opportunity within resource constraints, mission analysis enables the FAA to rank their priority and construct a rational long range resource allocation plan.

Establishes a strong corporate capability for determining the best way to satisfy mission need.

FAA is establishing a "center of excellence" for investment analysis with experts in such disciplines as cost estimation, risk assessment, market analysis, and affordability analysis. These experts *manage* investment analysis undertaken in response to approved Mission Need Statements. The analysis is *performed* by teams of operational analysts, acquisition and technology experts, and systems engineers who develop cost, schedule, and performance baselines for a variety of alternative solutions. This strategy ensures rigorous, impartial, and thorough treatment of all reasonable alternatives, and achieves "buy in" from the users who must live with the solution and the acquisition specialists who must deliver it.

Unifies agency planning, programming, and budgeting within a long range, strategic framework, and links it directly to the lifecycle acquisition management system.

Long range, top-down strategic planning and resource constraints form the framework for shorter-term programming and budgeting. Planning horizons and resource requirements are derived in large part from forward-looking mission analysis and rigorous investment analysis. Acquisition programs are initiated at the investment decision only if affordable within long range and short-term budgetary constraints.

Establishes strict cost, schedule, and performance controls on all acquisition programs.

All acquisition programs approved at the investment decision have cost, schedule, and performance baselines. IPTs have the authority and responsibility for executing programs within these baselines. Requests for additional funding must compete with all other agency needs and must be approved by the JRC. Requirements are baselined at the investment decision and may be significantly changed only when associated cost and schedule impacts are approved by the sponsoring organization and the JRC. Finally, full program planning must be developed and approved before any formal solicitation for implementation can be issued.

1.4.2 PROCUREMENT SYSTEM REFORM

Establishes competition for products and services among two or more sources as the preferred method of source selection.

FAA acquisition policy provides for reasonable competition among interested firms when it is consistent with agency needs. The goal is to acquire from industry the most advantageous solution to meet mission need. The preferred method of procurement is to compete requirements among two or more sources. Contracting with a single source is also permitted when it is determined to be in the best interest of the FAA.

Strives to provide small businesses with attainable and reasonable opportunities to participate as contractors and subcontractors.

Although exempted from the Small Business Act, FAA acquisition reform ensures that all small businesses and small businesses controlled by socially and economically disadvantaged individuals have attainable and reasonable opportunities to participate in FAA procurements. While not mandatory, the use of small business set-asides is encouraged when suitable. Competition is the preferred method of procurement.

Enables tailoring to meet the goals of each requirement.

FAA acquisition reform streamlines and adds flexibility to the source selection process. Most processes are provided as guidance that may be tailored to address the unique needs of each FAA requirement. The submission of proposals is simpler and less costly through the use of such techniques as oral presentations and page limitations. Evaluation processes use a minimum number of key discriminators to determine the best value for the FAA. The format and content of proposal documents may be tailored by the IPT for each specific requirement. The timeframes for each phase of the procurement process are based on the nature of the requirement. This flexibility saves both FAA and industry time and money because both parties are able to exercise discretion and sound business judgment while maintaining fairness and integrity.

Encourages industry participation in development of requirements and throughout the entire acquisition process.

FAA acquisition policy promotes open communications between FAA and industry throughout the acquisition process from mission analysis through initial procurement planning to contract award and throughout service life. Open communication helps industry to understand FAA requirements and the FAA to understand industry solutions. It also helps determine whether FAA requirements can be met by industry, and what the latest technology can achieve, and at what cost. Offerors are able to demonstrate their capabilities early in the process. Discussions are tailored for each procurement so as not to burden either party with

unproductive conversations. The use of electronic methods for accessing and transmitting information is encouraged.

Establishes lists of qualified vendors for products and services based on their capabilities and past performance.

FAA may establish qualified vendor lists (QVLs) for specific products and services. QVLs contain only those vendors who meet FAA's minimum requirements for the product or service. QVLs ensure that only those vendors able to provide a specific product or service spend time and resources in the procurement process. The QVLs also enable FAA to handle competition and to award contracts faster and at lower cost. When developing a QVL, information is solicited from all interested vendors. Such information is requested only if the FAA intends to use the resultant QVL for future procurements. The QVL is updated as additional vendors demonstrate the capability to qualify.

Promotes competition and allows for narrowing offerors to only those firms most likely to receive an award based on capability and past performance, and eliminates the requirement for formal solicitation.

FAA employs screening to determine which offeror(s) can provide the best value to FAA requirements. Screening occurs whenever the FAA issues a screening information request and evaluates offeror submissions in accordance with evaluation criteria contained in the request. The IPT determines the type and level of screening appropriate for each procurement need. FAA requests cost proposals only from those offerors mostly likely to receive an award. Screening minimizes the expenditure of time and resources by offerors with little or no chance of contract award. Screening also accelerates and improves source selection, as well as lowers cost to the FAA and potential offerors.

Delegates responsibility, authority, and accountability to the IPTs.

FAA acquisition policy places source selection responsibility, authority, and accountability with the IPT. The IPT is in the best position to make judgments on what makes sense for a given requirement and to take advantage of the flexibility available with FAA acquisition reform. Industry is aware that the IPT will select the vendor, and is therefore encouraged to deal directly with the team rather than authorities outside the team. Empowering the IPT to select the vendor saves considerable time and resources now spent on obtaining successive layers of approval outside the team.

Ensures offerors are treated fairly and disputes are resolved quickly and inexpensively for all parties.

Protests and contract disputes pertaining to solicitation and award of contracts and to contract performance are resolved at the agency level through the FAA disputes resolution system. Judicial review, where available, is in accordance with 49 U.S.C. 46110, and shall apply only to final agency decisions. If an offeror or contractor files a formal protest or

dispute, the decision of the FAA is a final agency decision only after the offeror or contractor has exhausted administrative remedies under the FAA disputes resolution system.

1.4.3 LIFECYCLE ACQUISITION WORKFORCE LEARNING SYSTEM

Provides a systemic, consistent, and continuous approach to increasing individual and organizational competence and productivity.

The learning system is designed to develop a highly skilled, well-informed, empowered workforce within an environment where individuals continuously broaden their competencies and increase their levels of competence. In this environment, both individual and team effectiveness is measured in terms of mission outcome. The learning system relies on a culture that encourages life-long learning, active knowledge-seeking behavior, collaborative learning efforts, and uses mistakes as learning opportunities. The goal, beyond acquisition of a specific level of competence, is to actively sustain an ongoing learning environment.

1.5 METRICS AND PERFORMANCE MEASUREMENT

FAA is developing metrics of critical measures of performance such as time, cost, customer satisfaction, and product/service quality to assess progress and identify additional opportunities for improvement. In addition to continuous improvement feedback, there will be an independent assessment of the acquisition management system three years after implementation, and changes will be made as necessary. Metrics will also be used to facilitate learning by highlighting programs and successful practices that demonstrate savings in time and cost, and improvements in customer satisfaction. A gainsharing plan is being developed to reward teams that bring programs in ahead of schedule, under cost, which meet high quality standards, and satisfy customer needs.

1.6 BUDGETARY REFORM

While FAA is dramatically reforming its acquisition system so it can deliver quality products and services when they are needed and at reasonable cost, these reforms cannot achieve their full potential benefit without budgetary reform. Unstable funding wreaks havoc on acquisition programs. It invalidates carefully crafted cost, schedule, and technical baselines, and greatly increases the overall time and cost to deliver new products. Budgetary reform is needed so acquisition programs can count on being funded according to the cost and schedule baselines upon which they were structured and approved. Budgetary reform is also necessary because funding will be needed quickly for new programs since they will be initiated at the investment decision in the reformed

process rather than at the mission need decision. Finally, so that technology may be inserted into the National Airspace System as occasions arise, a flexible "technology insertion" budget line needs to be established.

SECTION 2 – FAA LIFECYCLE ACQUISITION MANAGEMENT SYSTEM

2.1 GUIDING PRINCIPLES

The Federal Aviation Administration (FAA) lifecycle acquisition management system is a logical, event-driven sequence of activities and decisions that enable the agency to manage its resources and execute lifecycle acquisition programs efficiently and effectively. It starts with the determination of agency needs and continues through the entire product or service lifecycle. Guiding principles include:

- full *lifecycle* involvement by the acquisition and operational workforces;
- evolutionary product improvement and *quicker insertion of new technology*;
- top-down, continuous, *forward-looking mission analysis* and resource allocation planning;
- early and continuous involvement of National Airspace System (NAS) operators, users, customers, and industry vendors in establishing and stabilizing *sound, realistic requirements*;
- in-depth, comprehensive analysis of *all realistic alternatives* to meeting mission needs, and selection of most advantageous solutions based on quantitative data;
- *integration of acquisition program approval and agency budgeting processes*. New acquisition programs are only approved contingent on affordability assessments and agency commitment to full funding;
- *stable* program, technical, cost, schedule, and benefits *baselines*, corporate approval of baseline changes, and the ability to provide an audit trail of changes anytime in the program's lifecycle;
- *investment decisions* made at the corporate level by representatives of all the FAA investment areas;
- *Integrated Product Teams (IPTs)* responsible and accountable for the conduct of acquisition programs, staffed with knowledgeable and competent personnel empowered to make program execution decisions;

- *streamlined and user-friendly acquisition process*, resulting in cost and time savings. Reduction in mandatory policy, increased use of online guidance, best-practices, templates, and references, as well as significant reduction in planning documents all contribute to improvements and savings;
- *corporate-level decision making* restructured and reformed. Most program execution decisions are made at the IPT level. Management focus is on investment decisions and key program baseline indicators;
- emphasis on commercial items or *nondevelopmental solutions*; and
- *unified agency planning, programming, and budgeting* within a long range strategic framework and long-term resource plan.

2.2 APPLICABILITY

The FAA lifecycle acquisition management system is applicable to all activities associated with the analysis of agency needs, determination of requirements, analysis of investment alternatives, establishment of acquisition programs, allocation and expenditure of resources, and the deployment and in-service management of products and services. It is applicable to all acquisition programs of any cost and any appropriation, both for FAA headquarters-managed programs and programs managed by FAA regions, centers, and other field activities. Acquisition programs are sponsored, fully funded efforts initiated at the investment decision by the Joint Resources Council (JRC) in response to an approved Mission Need Statement.

Acquisition programs typically include multiple procurements. Individual procurements made under the authority of an approved acquisition program, and funded directly from that program are required to comply with appropriate procurement requirements of Section 3. Procurement planning is required for FAA procurements, including interagency agreements, with the exceptions of real property, utilities, credit cards, Standard Form 44s (SF44s), third-party drafts, and blanket purchase agreements. Waivers or deviations from this policy can be requested from the FAA Acquisition Executive (FAE).

2.3 STRUCTURE OF THE LIFECYCLE ACQUISITION MANAGEMENT SYSTEM

The FAA lifecycle acquisition management system is a fully coordinated set of policies, processes, and computer-based tools that guides the acquisition workforce through the entire acquisition lifecycle from the evolution of needs, development of requirements, consideration of all reasonable solutions, implementation of the solution whether it be

fielding of new systems or changes in procedures, in-service sustainment and modernization, and disposal. It retains key precepts of OMB Circular A-109, *Major Systems Acquisition*, and tailors them to meet FAA acquisition reform principles and goals. Core policy, generic processes, and computer-based tools form the structure of the lifecycle acquisition management system (see Figure 2-1). They support the Integrated Product Development System (IPDS), and are managed through agency-wide acquisition policy configuration management.

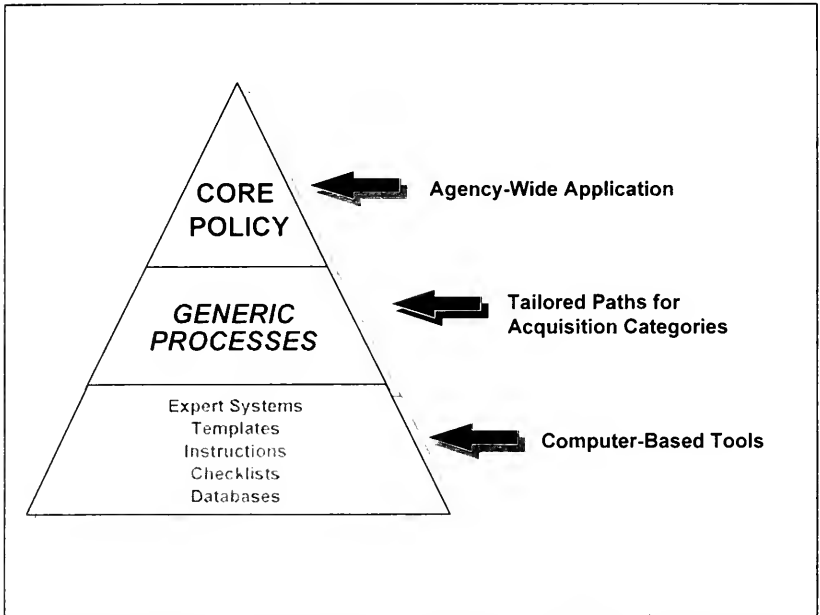


Figure 2-1: Structure of the Lifecycle Acquisition Management System

2.3.1 CORE POLICY

Core acquisition policy contains only essential elements and top-level policy requirements that apply universally across FAA except for those exemptions identified in the section on Applicability. The focus is on products, not process, with increased use of guidelines in place of detailed policy. Delegation of authority to the appropriate level, empowerment of a fully qualified workforce, and enlightened management are integral pieces of this core policy.

2.3.2 GENERIC PROCESSES

A set of four sets of tailored guidelines (under development), one for each of FAA's acquisition categories (systems and equipment, software, facilities, and services) supplement this core policy. These guidelines provide best practices, lessons learned, and good examples to assist the acquisition workforce in working through the events and decisions that occur in the solution implementation phase of the acquisition process.

2.3.3 COMPUTER-BASED ACQUISITION TOOLS

Policy and processes will be embedded in online, user-friendly tools available via the workstation of everyone who acquires new products and services. In total, these tools will be a comprehensive reference system for the entire lifecycle acquisition management process. The intent is to assist acquisition specialists in planning and executing all aspects of the process and provide quick access to current information.

2.4 NAS ARCHITECTURE AND FAA LONG RANGE STRATEGIC PLANNING

The NAS Architecture, FAA strategic planning, and long range resource allocation planning are integral elements of the lifecycle acquisition management system. These functions tie together the various programs and activities underway within the agency to provide the services needed by its users and customers. They provide a framework for mission analysis, investment analysis, and program implementation, and in turn evolve in response to these activities.

2.5 INTEGRATED PRODUCT DEVELOPMENT SYSTEM

The IPDS is the implementing arm of the lifecycle acquisition management system. The IPDS philosophy comprises the systematic teaming of functional disciplines to integrate and apply all relevant processes to produce an effective and efficient product or service that satisfies customer or user needs. This process is built upon the concept of a "teams leading teams" approach, and requires a cultural and organizational focus that understands and accommodates the mechanics and dynamics of team operation. It stresses cutting across the extant organizational "stove pipes" to make the IPDS teaming philosophy work and emphasizes full lifecycle responsibility, from inception to disposal, for products or services.

Within IPDS, there are two primary levels of teams: the IPT and the Product Team (PT). The IPTs are cross-functional, empowered teams having a mission, budget, and other resources for delivering a product or service capable of meeting the needs of their

customer or user. The IPTs make binding team-based decisions and ensure that the interests of all stakeholders, customers, users, and vendors are represented. The PTs are essentially sub-IPTs and are set up to enable complex products or services to be broken down into more manageable elements. The PT is the primary lifecycle acquisition management team and is empowered through IPDS to execute its mission.

The IPDS will be used for all acquisitions whether they occur at headquarters, organizations, or field activities. A complex new development of a NAS system may require an IPT of many persons with varied capabilities. On the other hand, the procurement of products or services may involve an IPT of as few as two persons, representing the provider (acquirer) and the user.

Throughout this document, lifecycle acquisition management teams are referred to as IPTs. This reference is used for convenience, with the understanding that the lowest level of empowered teams, the PTs or two person field teams, will most often execute acquisition programs for their assigned products or services.

2.6 AGENCY-WIDE ACQUISITION POLICY CONFIGURATION MANAGEMENT

In order to maintain lean, effective policy and efficient processes, it is important to control "policy creep." The FAE controls all changes to the lifecycle acquisition management system in accordance with Order 1810.7, *Management of Acquisition Policy*.

2.7 LIFECYCLE ACQUISITION MANAGEMENT PROCESS

2.7.1 OVERALL STRUCTURE

The lifecycle acquisition management process is organized into a series of phases and decision points and is broadly depicted in Figure 2-2. The circular representation of the process conveys the idea that a mission need is defined and translated into a most advantageous solution, and this solution undergoes a continuous loop of evolution and improvement until it is retired.

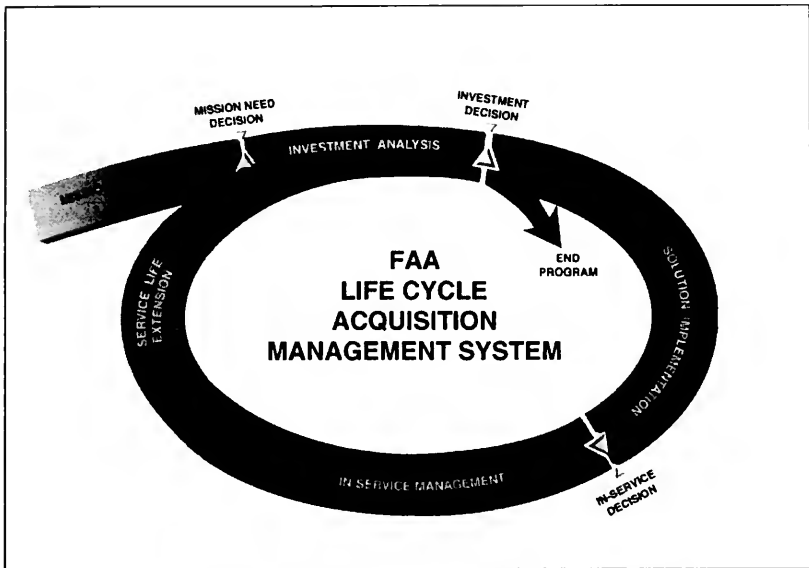


Figure 2-2: FAA Lifecycle Acquisition Management Process

The lifecycle acquisition management process is executed by operational and acquisition specialists working in partnership throughout the process. The IPTs unify the diverse disciplines critical to sound acquisition management such as: operational analysis, contracting, testing, logistics, cost estimating, budgeting, planning, operations research, risk assessment, and systems engineering. These teams blend and manage a broad range of responsibilities over the entire lifecycle of products and services that may be in existence for as little as three years for rapidly changing technologies, or over ten years for more stable technologies.

2.7.2 MISSION ANALYSIS

2.7.2.1 ACTIVITIES

Mission analysis is a strong, full-time, forward-looking analytical activity that evaluates the capacity of the NAS to sustain existing and satisfy emerging demands for services. It identifies both critical capability shortfalls that must be resolved and technological opportunities for improving the safety, efficiency, or effectiveness of NAS operations.

Mission analysis is conducted within a constrained fiscal framework that recognizes the austere Federal budget environment. It enables the agency to determine and focus its dwindling resources on the most critical needs and the best opportunities for substantial improvement in overall operational safety, efficiency, and effectiveness. Mission analysis is conducted within the NAS Architecture and long range strategic goals of the agency. In turn, mission analysis contributes directly to the evolution and refinement of FAA strategic planning, NAS Architecture, and the Long Range Resource Allocation Plan.

***Note:** Mission analysis, as shown in Figure 2-2, is depicted off the main lifecycle path to reinforce the idea that it is a continuous, independent process from which needs emerge, and is outside the environment of individual program execution.*

The principal activities of mission analysis are:

- ◆ *Identify and quantify projected **demand** for services.* Inputs come from such diverse sources as the aviation community in the form of demand for service and capacity; from NAS Architecture and long range planning as projections of services needed in the future; from operational and maintenance elements in the form of local site trends; and from IPTs in the form of usage trends.
- ◆ *Identify and quantify projected technological opportunities that will enable the FAA to perform its mission more safely, efficiently, and effectively.*
- ◆ *Identify and quantify existing and projected **supply** of services based on existing and planned capability.* Inputs principally come from field organizations that operate and maintain the NAS in the form of performance and supportability data; from the aviation community in the form of assessment of FAA provided services; and from the NAS Architecture that defines what is in place and what is approved to be implemented.
- ◆ *Identify, quantify, and analyze capability **shortfalls** (the difference between demand and supply) and **opportunities** (the increase in operational safety, efficiency, and effectiveness).*
- ◆ *Prepare Mission Need Statements (MNS).* The content includes the quantification of shortfalls or opportunities, the impact on FAA operations and services if the shortfall or opportunity is not satisfied, and a determination of criticality and timeframe when the shortfall or opportunity must be resolved.

If a nonmaterial solution becomes known during mission analysis that satisfies the capability shortfall (e.g., rulemaking change, operational procedural change, transfer of systems between sites, etc.), it may be implemented within approved budgets and without proceeding further in the lifecycle acquisition management process.

2.7.2.2 RESULTS AND PRODUCTS

When a capability shortfall or technological opportunity is identified, the results of mission analysis are summarized in an MNS. The MNS must clearly describe either the capability shortfall and the impact of not satisfying the shortfall or the technological opportunity and the increase in operational safety, efficiency, or effectiveness that will be achieved. The MNS must also assess the criticality and timeframe of the need and roughly estimate resources to assist in establishing its priority in competition with other needs of the agency, and in determining which needs should be approved for subsequent investment analysis. See Figure 2-3.

Note: As an individual program proceeds through implementation, fielding, sustainment, and eventual replacement, the MNS is periodically revalidated, but a new MNS is not needed, even if the fielded product is replaced. However, when the need itself significantly changes, an existing MNS must be changed or a new MNS must be developed.

2.7.2.3 WHO DOES IT?

Each FAA line of business (Air Traffic Services, Commercial Space Transportation, Civil Aviation Security, Regulation and Certification, Airports, Administration, and Research and Acquisitions) performs mission analysis for its business area using staffs of qualified and trained analysts. These analysts conduct mission analysis within the broad framework of NAS Architecture and operational strategy, Congressional mandates, and agency strategic planning.

2.7.2.4 WHO APPROVES?

An FAA line of business must sponsor an MNS. Final drafts are endorsed by the Associate Administrator of the operational organization that will eventually be impacted by the proposed need and sent to the JRC for approval. For the mission need decision, the Associate Administrator of the sponsoring organization serves as the JRC chairperson.

The JRC approval of the MNS signifies the agency agrees that the need is sufficiently critical to warrant entry into investment analysis.

If a nonmaterial solution is identified during mission analysis, the Associate Administrator of the sponsoring organization approves the solution and identifies, within the line of business, any funding offset required for implementation.

2.7.3 INVESTMENT ANALYSIS

Investment analysis generates the information used by the JRC at the investment decision to determine the best overall means for satisfying mission need. It is conducted as a joint partnership between the sponsoring and acquiring organizations to ensure the critical needs of the user are satisfied by a solution that is affordable. Investment analysis begins with the translation of broad statements of mission need into initial requirements by the sponsoring organization working with the market and technology experts of the acquiring organization. These initial requirements then undergo detailed market, investment, and affordability analysis. Statements in the MNS concerning urgency and criticality of the need determine when the investment analysis must be completed.

Note: Investment analysis, as shown in Figure 2-2, is somewhat off the main lifecycle circular path to denote that it is conducted prior to the establishment of an IPT-led acquisition program.

2.7.3.1 REQUIREMENTS DEFINITION ACTIVITIES

The line of business with the need establishes initial requirements with technical support from the investment analysis staff. The principal activities are:

- ◆ *Determine initial requirements.* Capability shortfalls or technological opportunities in the MNS are translated into top-level, mission-critical performance parameters that the solution should satisfy. These performance parameters are recorded in the initial requirements document which establishes baseline criteria for selecting candidate solutions, conducting market analyses, analyzing alternatives, and performing affordability assessments.
- ◆ *Finalize requirements.* After market survey, analysis of alternatives, and affordability assessment, the sponsoring organization baselines the final set of critical operational and support requirements and records them in the Requirements Document.

2.7.3.2 INVESTMENT ANALYSIS ACTIVITIES

The investment analysis staff leads the effort to identify and analyze candidate solutions that satisfy initial requirements. The following are principal activities:

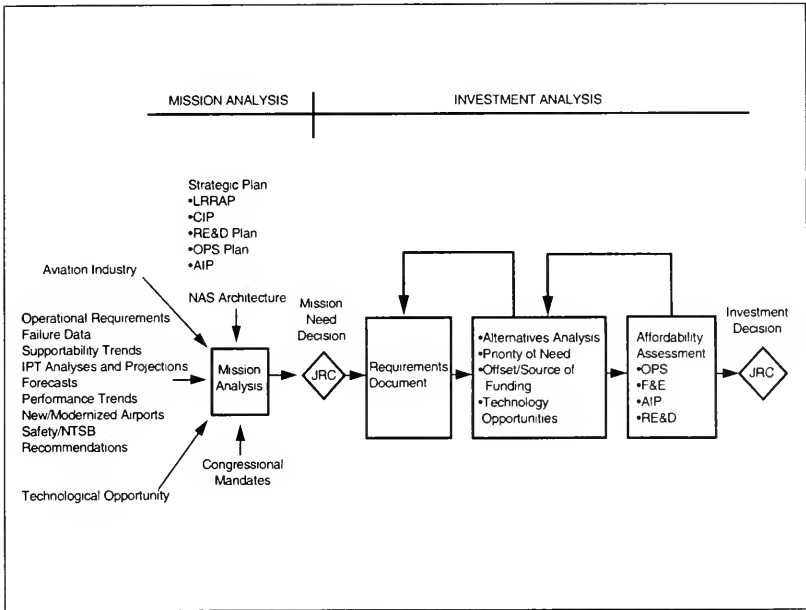


Figure 2-3: Relationship Between Mission Analysis and Investment Analysis

- ◆ *Identify alternatives and survey market.* The initial requirements are used to identify all viable material and nonmaterial candidate solutions. This is accomplished through market surveys and inputs from all FAA organizations that might represent candidate solutions (one or more IPTs, regulatory offices, research organizations, etc.). The principal objective is to identify commercial items, nondevelopmental items, or nonmaterial solutions that are cost-effective and operationally suitable to satisfy the need and requirements. Developmental solutions should be chosen only if other choices are not viable.
- ◆ *Nonmaterial solutions.* If a viable nonmaterial solution is identified which is achievable within approved budgets, it may be implemented without proceeding further in the lifecycle acquisition management process. The Associate Administrator of the operational organization sponsoring the mission need must notify the JRC of the selection of the nonmaterial solution.
- ◆ *Analyze alternatives.* Candidate solutions are evaluated by compiling and analyzing such factors as: lifecycle cost, cost-benefits, risk, technical

performance, schedule, human factors, environmental impact, radio frequency spectrum, logistics support, compatibility with NAS Architecture, regulatory and procedural impact, and operational suitability. During this process, there is continual iteration back through the requirements (refer to Figure 2-3) to determine the most advantageous and reasonable solution to a core set of requirements, not necessarily all the initial requirements. Emphasis is on the use of evolutionary development or pre-planned product improvements (P3I) to satisfy requirements that cannot be met today. The results of investment analysis are documented in an Investment Analysis Report which contains comprehensive, quantitative data equally developed for each alternative.

- ◆ *Affordability assessment.* In selecting a solution and initiating a new acquisition program, a key element of acquisition reform requires that affordability be considered. An affordability assessment is conducted jointly by the investment analysis staff and sponsoring organization. A new program is authorized only if the commitment is made to fully fund it. The sponsoring Associate recommends the priority of the proposed program to the JRC. The priority is determined in relationship to all other programs competing for resources in the same years and in the same line of business. Additional funds or offsets must be identified if required. When offsets outside the line of business are required, the affordability assessment should contain an up-to-date prioritization of all agency programs so the JRC can consider a full range of offset candidates. This information is included in the Investment Analysis Report.
- ◆ *Selection of the solution.* The JRC determines whether to initiate a new acquisition program at the investment decision based on information in the Investment Analysis Report.
- ◆ *Program initiation.* The selection of a material solution or services initiates an acquisition program. The lifecycle process then moves into solution implementation, with resources and management responsibility transferred to the appropriate IPT.

2.7.3.3 RESULTS AND PRODUCTS

The products of this phase are:

- revalidated MNS (provided by the sponsoring organization);
- Requirements Document;
- Investment Analysis Report;

- Acquisition Program Baseline; and
- adjusted Long Range Resource Allocation Plan and budget planning documents.

The investment decision by the JRC does the following:

- selects a solution;
- establishes a program and assigns it to the appropriate IPT;
- baselines the Requirements Document;
- establishes the Acquisition Program Baseline for performance, cost, schedule, and benefits;
- commits the agency to full funding of the program; and
- identifies future corporate decisions, if required (refer to production and in-service decisions).

2.7.3.4 WHO DOES IT?

Investment analysis is conducted as a joint enterprise by the sponsoring and acquiring organizations. The sponsor, with technical support from the investment analysis staff, develops and approves the Requirements Document. The investment analysis staff leads the market search, alternatives analysis, and affordability assessment with strong participation from the sponsor and IPTs. They also develop refined procedures, techniques, databases, and tools for investment analysis, and ensure that a thorough consistent, and predictable analytical approach is used for each analysis. IPTs conduct technology assessments and generate the cost and schedule baselines associated with each alternative solution to meet a mission need. This arrangement is intended to ensure that users buy into the solution and that acquisition specialists have a strong voice in the cost, schedule, and performance baselines they will live with during solution implementation. It also allows the investment analysis staff to understand concerns of the operations and acquisition organizations, and for these organizations to learn the disciplined techniques of investment analysis.

2.7.3.5 WHO APPROVES?

The Associate Administrator of the sponsoring or affected operational organization approves the Requirements Document. If a nonmaterial solution is selected, it can be approved by the Associate Administrator of the sponsoring organization. For material solutions, the JRC selects the alternative, establishes an acquisition program, approves

the Acquisition Program Baseline, approves any necessary budget offsets, and determines any future corporate-level decisions required during program implementation. The JRC chairperson at the investment decision is the FAE.

2.7.4 SOLUTION IMPLEMENTATION

Solution implementation begins after the JRC selects the most advantageous solution and approves an acquisition program. It ends when the new capability is ready to go into service. Solution implementation will vary widely depending on the acquisition category (systems and equipment, software, facilities, services) and the nature of the solution selected at the investment decision. For example, the activities associated with buying and deploying a commercial item will typically be much less complex and time-consuming than activities associated with a product requiring development. In all cases, products must be shown to meet user requirements, to be fully supportable, and to be compatible with other operational elements.

All acquisition programs are managed by IPTs whether the program is located in FAA headquarters or field offices. In the most basic sense, this translates to direct involvement of both customer (internal and external) and provider in all acquisition decisions during solution implementation. External customers and vendors will be excluded from performing inherently government functions.

Two items are stressed in reform for this phase: tailored, easy-to-use processes and early program planning.

2.7.4.1 TAILORED, EASY-TO-USE PROCESSES

The FAA has four major categories of acquisition programs: systems and equipment, software, services, and facilities. FAA acquisition reform provides tailored paths (under development) for each category, as well as best practices, lessons-learned, and reference materials unique to each path. For some programs, the chosen path will lead to the simple purchase of services or commercial items. In others, the path will guide the IPT through the steps needed for development of a complex system. When this occurs, the path will provide options for competitive prototyping, rapid development, concurrent engineering, and other best practices that might fit the circumstances of a particular acquisition program. Mandatory policy is minimized and enabling guidance is stressed for flexibility while maintaining sound acquisition management. The goal is to assist the IPT in planning the activities and steps that make sense for each acquisition program, and not to direct that a specific set of procedures be implemented.

2.7.4.2 EARLY PROGRAM PLANNING

The IPTs must develop an Acquisition Strategy Paper and an Integrated Program Plan. The Acquisition Strategy Paper is a high-level, strategic overview of the technical, management, and contracting approach that will be used to implement the acquisition program within constraints of the Acquisition Program Baseline. It is approved by the FAE and sets the framework for the Integrated Program Plan (IPP). The Integrated Program Plan compiles all program planning factors such as systems engineering, hardware and software integration, risk management, human factors, test and evaluation, integrated logistics support, procurement planning, program implementation, and work breakdown structure into one consolidated, single-source planning document. The IPP must be in place before release of a formal solicitation for implementation. Draft solicitations may be released to industry for comment.

2.7.4.3 WHO APPROVES?

The FAE approves the Acquisition Strategy Paper and Integrated Program Plan. The IPT may choose to have individual sections of planning documents approved by functional managers responsible for such disciplines as logistics and test and evaluation.

2.7.4.4 PRODUCTION AND IN-SERVICE DECISIONS

Although these two decisions are normally empowered to IPTs, there are instances when one or both require corporate involvement. This is most often dictated by high-value programs or products with very important NAS safety or capacity functions.

At the investment decision, the JRC designates which, if any, subsequent decisions should be made at a level higher than the IPT (e.g., Director or JRC). During solution implementation, the IPT may also request higher level involvement.

If a production decision is retained by the JRC, it will be chaired by the FAE. If an in-service decision is retained by the JRC, it will be chaired by the Associate Administrator of the operating organization.

2.7.4.5 MANAGEMENT PARTICIPATION

A number of management processes are in place to guide solution implementation of acquisition programs by IPTs, and to keep senior management informed of program status.

2.7.4.5.1 Product/Service Area Reviews

The Product/Service Director guides the IPT in developing acquisition program strategy and planning. The Integrated Product Leadership Team and the Integrated Management

Team have roles in overseeing IPT issues, prioritizing resources, and participating in resolving problems.

2.7.4.5.2 Acquisition Reviews

Acquisition reviews provide a means to keep the FAE and other senior managers informed on a regular basis of acquisition program status. Normally, acquisition reviews are structured to present the status of an entire product line. Topics for individual reviews should include progress, status of cost and schedule, assessment of risk, and disclosure of issues, especially those involving redirection of resources or those relevant to the interdependencies with the entire product line or other product lines.

2.7.4.5.3 Acquisition Program Baselines

The Acquisition Program Baseline is approved at the investment decision. It establishes the critical technical, cost, and schedule boundaries within which the IPT is authorized to operate. The IPT must carefully manage this baseline and report to the FAE any anticipated breaches before they occur. Potential breaches can occur because of Congressional mandates, changes in requirements, unanticipated development problems which impact schedule, or cost growth on contracts. If approved by the JRC, program baselines and agency resource plans are adjusted.

2.7.4.5.4 Program Evaluation Division

The FAE maintains an organization to provide independent analysis and give assurance that acquisition program objectives are being achieved. This organization also assesses the overall performance of the acquisition workforce.

2.7.5 IN-SERVICE MANAGEMENT

The in-service management phase represents a new critical role for the acquisition community. It begins when the new system, software, or facility goes into operational use, and continues for as many years as the product is in use. During this period, IPTs are responsible for:

- removing latent defects;
- managing and incorporating approved planned improvements;
- managing engineering changes to fix systemic problems;
- planning, programming, and developing budget input for resources to sustain fielded products within approved program baselines;

- monitoring and assessing performance, cost of ownership, and support trends;
- planning and preparing for service life decisions to correct capability shortfalls; and
- seeking technology opportunities to enhance the fielded capability or reduce ownership costs.

This phase is characterized as a partnership between the IPT and the operational and support organizations. Operational and support participation within the IPT is critical. Developers and users must work closely together to establish a framework for evolutionary product development, and to identify operational problems early enough to upgrade or replace products before they become obsolete or insupportable.

There is great flexibility during in-service management to sustain and enhance fielded capability without the need for corporate-level approval. Pre-planned product improvements may be implemented as stipulated at the investment decision. Resources to sustain products are imbedded in the Acquisition Program Baseline so that components of fielded products (e.g., printers or processors) can be upgraded as needed. The objective is evolutionary product development and rapid insertion of new technology based on open systems architecture without the need for wholesale replacement of fielded products.

2.7.6 SERVICE-LIFE EXTENSION

When the current capability must be increased to such an extent that sustainment funding is not sufficient, or when another solution offers potential for improving safety, significantly lowering costs, or improving effectiveness, the IPT should prepare for an agency investment decision. This involves working with the investment analysis organization to carefully consider reasonable alternative solutions for attaining the needed capability. Results are documented in an Investment Analysis Report and presented to the JRC at the investment decision. The key to success is looking far enough into the future so there is time to get approval and implement a solution before there is an emergency.

Note: The existing mission need must be revalidated by the mission analysis staff of the sponsoring line of business. However, a new MNS is not required. Also, the cost to dispose of products already in the field must be included in the cost estimates associated with replacing an existing capability.

2.8 TEST AND EVALUATION

All acquisition programs in the categories of systems and equipment, facilities, and software follow a structured, disciplined test and evaluation (T&E) process. This includes commercial items and nondevelopmental products. Initially, T&E is used to assess and mitigate potential operational risks. It culminates in a final verification of operational readiness.

The overall T&E strategy for an acquisition program (including commercial items and nondevelopmental products) is defined in the Acquisition Strategy Paper and approved by the FAE before release of a formal solicitation for solution implementation. Detailed test and evaluation planning is included in the test and evaluation section of the Integrated Program Plan; it must also be approved before release of any solicitation for solution implementation.

The criteria for operational suitability should be delineated in the test section of the Integrated Program Plan prior to signing a prime contract for implementation. The test strategy in the Acquisition Strategy Paper should reflect whether commercial test data will be used in lieu of agency testing for systems or components that are commercially available.

2.9 INDEPENDENT OPERATIONAL TEST AND EVALUATION

The FAA is committed to verifying, through independent operational testing conducted by operators and users, that new systems are operationally effective and suitable prior to deployment. Independent Operational Test and Evaluation (IOT&E) is conducted on acquisition programs designated by the Associate Administrator for Air Traffic Services. The decision to designate a program for IOT&E will be based upon such factors as complexity, criticality, acquisition cost, and risk. During the early stage of the acquisition cycle, IOT&E involves the monitoring of program activities to identify any potential operational risks and communicate them to the IPTs. Upon the completion of the IPT's test activities, the final phase of IOT&E is a user/operators evaluation of the system in an operational environment. The IOT&E provides decision makers with an independent determination of operational readiness in support of the production and in-service decisions.

2.10 INTEGRATED LOGISTICS SUPPORT

Integrated logistics support is a principal element in all hardware, software, equipment, and facility acquisition programs. The first consideration of logistics support occurs early in investment analysis. The Requirements Document *must* include availability,

supportability, and maintainability factors, as well as critical mission performance parameters. This provides the top-level framework for the proper consideration and integration of logistics support throughout solution implementation.

Early program planning for solution implementation, recorded in the Acquisition Strategy Paper and Integrated Program Plan, must address logistics support factors. These factors should be fully developed and integrated into the solicitation for program implementation. Hardware and software designs should incorporate logistics support elements from the beginning. High product availability and supportability at the lowest lifecycle cost should be a prime goal.

2.11 PROCUREMENT PLANNING

Planning is required for *all* FAA procurements, including interagency agreements, with the exceptions of real property, utilities, credit cards, SF44s, third-party drafts, and blanket purchase agreements. Procurement planning for acquisition programs approved by the JRC is done by the IPTs who document overall procurement strategy in the Acquisition Strategy Paper and detail planning for specific procurement actions in the contracting section of the Integrated Program Plan. A Procurement Plan is required for procurements not addressed in an Acquisition Strategy Paper or Integrated Program Plan (see Section 3). The scope of procurement planning for these actions should address all significant considerations of the procurement, and should be in proportion to the complexity and dollar value of the requirement. The instructions for the contracting sections of the Integrated Program Plan should be used as a guide when developing a Procurement Plan.

***Note:** An Acquisition Strategy Paper is required for the overall acquisition program and not for individual procurements within an approved program.*

2.12 SOUND ENGINEERING PRACTICES

In addition to logistics support, procurement planning, and testing, IPTs must carefully employ sound engineering practices in every element of product design and lifecycle support to ensure quality, trouble-free products in the field. These practices include configuration management, transition management, quality assurance, all the “ilities” (e.g., reliability, maintainability, availability), interface management, human factors, environmental impact, safety and health, and security. Guidance for these disciplines will be part of the online FAA acquisition system tools.

2.13 DECISION MAKING

Decision making in the FAA lifecycle acquisition management system is based on the assumption of individual and team competence and responsibility. The policy is to delegate authority to the lowest appropriate level *after verification of team competence and responsibility*. Corporate-level decision making focuses on agency investment decisions and key program baseline indicators.

Decision making is tailored for each program to satisfy the unique combination of such factors as risk, cost, and interdependencies with other programs. In general, this translates to IPTs being empowered to make more program implementation decisions, while maintaining the option for higher-level guidance or decision making if needed.

2.13.1 CORPORATE-LEVEL DECISIONS

Two decisions are always made at the corporate level. First, the JRC decides which mission needs should be endorsed by the agency as critical enough to warrant entry into investment analysis. Second, the JRC makes the investment decision at the conclusion of the investment analysis phase. The selection of the solution to satisfy a mission need; the investment of resources into a new, fully-funded program; and the possible need to cancel other programs to accommodate a new program, make the investment decision the most important in the lifecycle acquisition management process. The decision of whether to approve breaches to the Acquisition Program Baseline, especially those involving cost growth, is also corporate.

Normally, IPTs will be empowered to make all program decisions. However, decisions can be designated to higher levels either at the request of the IPT or if directed by management. Typically, production or in-service decisions are candidates for corporate involvement.

The JRC is established for making corporate-level decisions. Membership consists of:

- the Associate Administrators representing the FAA line of business investment areas (Air Traffic Services, Airports, Regulation and Certification, Civil Aviation Security, Administration, Commercial Space Transportation, Research and Acquisitions);
- the FAA Acquisition Executive;
- the Director of the Office of Financial Services, representing acquisition fiduciary responsibilities; and
- legal counsel.

The chair of the JRC depends on the decision being made. The Associate Administrator for the line of business with the need is the chair for the mission need decision. The FAE is the chair for the investment decision, any decisions regarding changes to an approved Acquisition Program Baseline, and all ad hoc JRC meetings. When program decision making is retained at the corporate level (e.g., the production or in-service decision for a complex or high value program), the chair of the JRC at these future decision points will be designated at the investment decision. (See Production and In-Service Decisions.)

2.13.2 INTEGRATED PRODUCT TEAM DECISIONS

After the investment decision, the IPT assumes responsibility for the acquisition program, implements the selected solution, and subsequently manages the product through its entire in-service period. There are many important decisions that the IPT is empowered to make. Typically they include:

- source selection and contracting;
- design;
- production (refer to production and in-service decisions for exceptions);
- in-service deployment (refer to production and in-service decisions for exceptions);
- incorporation of improvements;
- sustainment planning and programming; and
- service-life extension within approved baselines.

Decision making empowerment is predicated on IPTs having qualified and skilled members representing all necessary functional disciplines.

A network of management support is available to assist the IPT and participate in problem-solving or decision making. They include product/service area directors, Integrated Product Leadership Teams, and Integrated Management Teams.

2.14 AFFORDABILITY AND THE RESOURCE ALLOCATION PROCESS

There are four key features in FAA acquisition reform related to planning, programming, and budgeting for acquisition programs.

2.14.1 SOUND LONG RANGE PLANNING

Long range strategic planning and top-down resource allocation planning form the framework for short-term programming and budgeting for all appropriations. The FAA integrates requirements for all planned and approved programs into a Long Range Resource Allocation Plan. Individual plans for each appropriation are derived from this integrated, top-down, agency-wide investment plan. Proper coordination with the Airport Improvement Program is mandatory to ensure compatibility with F&E funded activities. Figure 2-4 illustrates the relationship between key elements in the FAA's planning process.

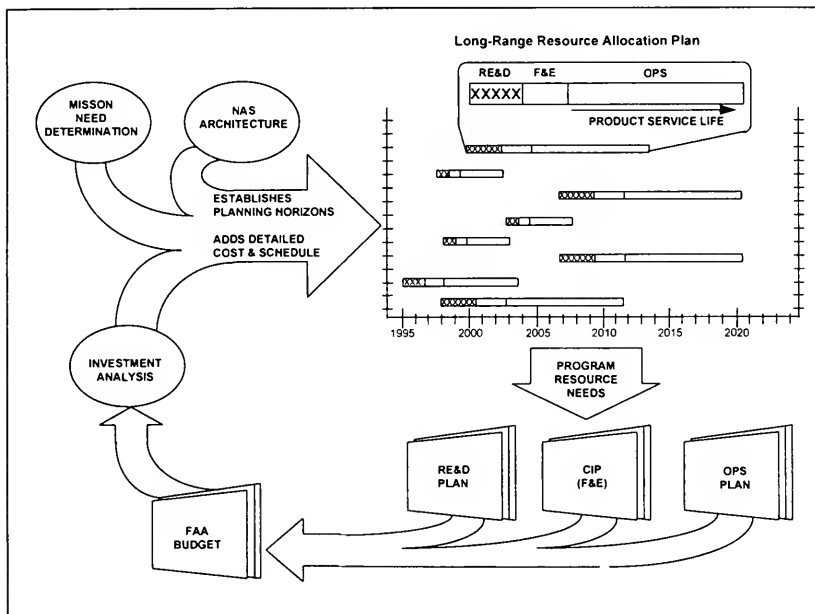


Figure 2-4: Top-down Planning and Programming

The relationships depicted in Figure 2-4 contains the following key features:

- ♦ *NAS Architecture.* This new planning function in the FAA contains an evolutionary description of aviation, air traffic management, and air navigation systems in terms of services, functions, and performance to be provided to users. It describes the systems, people, procedures, and policy relationships necessary

for future aviation needs. As such, it defines top-down needs of the NAS in out years.

- ◆ *Mission Analysis.* Top-down, forward-looking mission analysis determines the needs of the agency and provides a basis for prioritizing them. NAS Architecture provides the overall framework for mission analysis, and in turn, evolves as new capability is established in response to mission needs approved by the JRC.
- ◆ *Planning Horizons.* Mission analysis and NAS Architecture combine to define a framework of needs and requirements the FAA intends to address in future years. As such, they establish a sound basis for inserting advanced planning placeholders in the Long Range Resource Allocation Plan.
- ◆ *Investment Analysis.* Lifecycle cost estimates and planning schedules are developed for each candidate solution during investment analysis. This provides credible definition to out-year placeholders in the Long Range Resource Allocation Plan, and provides the basis for the Capital Investment Plan, Research, Engineering & Development (RE&D) Plan, Operations and Maintenance Plan, and eventually specific-year budget estimates.

2.14.2 UNIFICATION OF THE AGENCY'S PLANNING, PROGRAMMING, AND BUDGETING PROCESSES WITH THE ACQUISITION MANAGEMENT PROCESS

Mission analysis, investment analysis, NAS Architecture, FAA Strategic Planning, and Long Range Resource Allocation Planning are coordinated activities in the lifecycle acquisition management system. They provide the information and planning that enables the FAA to commit to full funding of an acquisition program when approved for implementation at the investment decision. Previously, program approval was separate from the programming and budgeting processes, and approved programs had to compete for funding.

For this unification of processes to work, an affordability assessment must be provided to the JRC for the investment decision. Key elements of the affordability assessment are:

- credible lifecycle cost estimates for all appropriations for each candidate solution;
- prioritization of the candidate solutions versus all other Long Range Resource Allocation Plan programs; and
- identification of additional funds or offset programs, if required.

2.14.3 STABLE PROGRAM BASELINES

Credible lifecycle costs, schedules, benefits, and technical parameters *must be* developed during investment analysis for each alternative so realistic technical, schedule, cost, and benefit baselines can be established at the investment decision. When the IPT projects significant changes to, or breaches of the baseline, it triggers a corporate decision. Program growth is, in effect, a change to the investment decision and must be approved by the JRC. A "mini" investment analysis must be conducted, and the growth will be assessed against all other requests for agency resources. No resources exceeding the cost baseline may be programmed, committed, or obligated until approved by the JRC.

2.15 REQUIRED DOCUMENTATION

Table 2-1 identifies the six *mandatory* acquisition planning and control documents in the lifecycle acquisition management system. It defines the purpose of each document, when the document is required, the responsible organization, and the approving official. Appendix C summarizes each document.

Table 2-1: Acquisition Planning and Control Documents

<i>Document</i>	<i>Purpose</i>	<i>Requirement</i>	<i>Responsible Organization</i>	<i>Approving Official</i>
<i>Mission Need Statement</i>	Defines a mission capability shortfall or technological opportunity the agency should address	Initial MNS at mission need decision Revalidated MNS at the investment decision	Line of business with the need	Chairperson of the JRC at the mission need decision
<i>Requirements Document</i>	Establishes the performance baseline and operational framework for a program	Initial Requirements Document at start of investment analysis Approved and baselined document at the investment decision	Sponsoring organization with the need and the investment analysis staff	Associate Administrator of the sponsoring organization
<i>Investment Analysis Report</i>	Provides the analytical and quantitative basis for determining the best means for satisfying mission need	Prepared during investment analysis as the primary decision document at the investment decision	Investment analysis staff with assistance from the sponsoring organization and IPTs	Head of the investment analysis staff
<i>Acquisition Program Baseline</i>	Establishes the performance, cost, schedule, and benefits framework within which a program must be implemented	Established at the investment decision	IPT	FAE

Table 2-1: Acquisition Planning and Control Documents

<i>Document</i>	<i>Purpose</i>	<i>Requirement</i>	<i>Responsible Organization</i>	<i>Approving Official</i>
<i>Acquisition Strategy Paper</i>	Defines the overall strategy by which a program will be implemented	Before release of formal solicitation for implementation Updates at any subsequent decision points	IPT	F AE
<i>Integrated Program Plan</i>	Integrates detailed planning for all aspects of program implementation	Before release of formal solicitation for implementation Continuous updating	IPT	F AE

Several key planning documents are combined into one Integrated Program Plan. This provides the benefit of having key programmatic information gathered in one place, with redundancy and inconsistencies removed. The objective is a convenient and useful planning and reference document that IPTs will keep current and use during program execution.

Programs in the solution implementation or in-service management phases as of April 1, 1996 are not required to develop these six planning documents. However, when they request an investment decision for a major upgrade, a Mission Need Statement, Requirements Document, and Investment Analysis Report must be prepared.

2.16 WORKFORCE ONLINE ACQUISITION TOOLS

Another key mission of the lifecycle acquisition management system is to move away from voluminous policy and process documents, encumbered with bureaucratic format and language. The intent is to move toward policy that is streamlined, user-friendly, easy to access through local area networks and the Internet, always current, and presented in a manner that provides guidance to those individuals who use it.

Acquisition policy and processes will be provided online at employee workstations within an easy-to-access pictorial representation of the overall lifecycle acquisition management process. This online tool will provide templates, checklists, instructions, examples of good approaches and good documents, best practices used by the Government and industry, and lessons-learned from other programs. It will replace the many policy documents currently in use.

2.17 ROLES AND RESPONSIBILITIES

Appendix B provides the acquisition system roles and responsibilities.

SECTION 3—PROCUREMENT SYSTEM

3.1 OVERVIEW

3.1.1 INTRODUCTION

The goal of the Federal Aviation Administration (FAA) procurement system is to obtain high quality products, services, and real property in a timely, cost-effective manner, at prices that are fair and reasonable. The procurement system enables the FAA to be innovative and creative so that the right vendor is selected to implement a solution. The FAA procurement system is an integrated part of the acquisition process. The FAA procurement system focuses primarily on identifying sources, awarding, and administering contracts.

The FAA procurement system emphasizes competition, selects the vendor with the best value (including awards to small businesses and small businesses owned and controlled by socially and economically disadvantaged individuals) and provides a protest forum through the FAA's Alternative Dispute Resolution (ADR) process. Open communications with industry from initial planning to contract award are the cornerstone of the process. Procurement documents are tailored to individual requirements and screening improves source selection by focusing efforts on those offerors most likely to receive an award. The procurement system emphasizes "common sense" decision making, flexibility, business judgment, and a team concept for managing procurements. The Integrated Product Teams (IPTs) have the proper level of authority to make decisions and are responsible and accountable for their actions.

The FAA's procurement system provides policy and guidance for executing contracts and agreements to acquire products, services, and real property. In support of the FAA's mission, the Administrator, or designee, has broad discretion to select contractors who provide products, services, and real property. Procurement officials should follow the policy and guidance contained herein but, based on prudent discretion and sound judgment, may employ any procedures that do not violate applicable statutes or regulations.

3.1.2 APPLICABILITY

The FAA procurement system applies to all procurements conducted by the FAA, as set forth herein with the exception of assistance relationships, such as grants and cooperative agreements.

3.1.3 FUNDAMENTAL PRINCIPLES

The FAA procurement system will:

- enable the selection of the contractor with the best value to satisfy the FAA's mission;
- focus on key discriminators between vendors and their products or services to ensure timely, cost efficient, and quality contract performance;
- promote discretion, sound business judgment, and flexibility at the lowest levels while maintaining fairness and integrity;
- encourage the procurement of commercial and nondevelopmental items;
- provide streamlined methods and initiate innovative processes to conduct timely and cost-effective procurements;
- promote open communication and access to information throughout the procurement process and encourage use of electronic methods for information exchange;
- encourage competition as a preferred method of contracting;
- permit single source contracting when necessary to fulfill the FAA's mission;
- allow the use of a range of contract types and transactions best suited to a particular procurement;
- authorize the use of credit cards and third party drafts consistent with prudent business practice;
- provide attainable and reasonable opportunities for small businesses and small businesses owned and controlled by socially and economically disadvantaged individuals in consultation with the Department of Justice to ensure compliance with the constitutional standards established by the Supreme Court in Adarand Constructors v. Peña, as well as the President's July 19, 1995, directive to the heads of executive departments and agencies on the "Evaluation of Affirmative Action Programs";
- provide an internal process for resolving protests and disputes in a timely, cost-effective and flexible manner;
- promote high standards of conduct and professional ethics;

- require appropriate file documentation to support business decisions;
- assure adequate checks and balances; and
- ensure public trust.

3.1.4 CONTRACTING AUTHORITY

Authority and responsibility to contract for authorized products and services are vested in the FAA Administrator. The FAA Administrator may establish contracting activities and delegate to the FAA Acquisition Executive (FAE) broad authority to manage FAA contracting functions. The FAE is authorized to appoint contracting officers in writing and may redelegate this authority. Contracts and interagency agreements may be entered into and signed on behalf of the FAA only by Contracting Officers (COs). Information on the limits of the contracting officer's authority shall be readily available to the public and FAA personnel.

3.1.5 CONFLICT OF INTEREST

Any IPT member (including government and non-government advisors) or member of the Office of Disputes Resolution (ODR) who has, or whose immediate family has, stock holdings, investments, or other financial, business, or employment relationship with any potential or actual offeror or contractor may be unable to render impartial, technically sound, and objective assistance, advice, or decision. For the purposes of this section, immediate family includes spouse, dependent children, or other blood relatives who are residents of the employee's household.

In order to assure that no conflict of interests exist, the Source Selection Official (SSO) shall have each IPT member submit a conflict of interest statement to the SSO (or designee) prior to the distribution of offeror submissions for evaluation. An IPT member may be removed from participation in the source selection process should a conflict of interest exist. All conflict of interest cases must be clearly documented. The IPT members shall update and resubmit any and all conflict of interest statements if an individual's financial, business, or employment relationship changes to the extent that a conflict of interest could exist.

3.1.6 DISCLOSURE OF INFORMATION

Except as provided in Section 3.2.2.5, source selection information and proceedings (e.g., cost or price data, technical ratings/rankings, contractor data) shall not be discussed outside the IPT, except on a need to know basis, as determined by the SSO, and to brief/consult with functional managers/supervisors.

In order to assure that sensitive source selection information and proceedings are properly handled, the SSO shall require each IPT member, including advisors, and any other individual exposed to sensitive source selection information, to submit a certificate of nondisclosure to the SSO (or designee) prior to the issuance of the Screening Information Request (SIR).

All questions relating to the source selection from sources outside the IPT shall be referred to the cognizant CO.

3.1.7 ORGANIZATIONAL CONFLICT OF INTEREST

The policy of the FAA is to avoid awarding contracts to contractors who have an unacceptable organizational conflict of interest. An organizational conflict of interest means that because of other activities or relationships with other persons, a person is unable or potentially unable to render impartial assistance to the agency, or the person's objectivity in performing the contract work is or might be impaired, or a person has an unfair competitive advantage. The FAA will resolve organizational conflict of interest issues on a case by case basis. When necessary to further the interests of the agency, an actual or potential conflict may be waived or mitigated at the FAA's discretion. As used herein, the term "person" includes any legal entity including a partnership, corporation, or association.

3.2 CONTRACTING

3.2.1 PROCUREMENT PLANNING

3.2.1.1 APPLICABILITY

Planning requirements apply to all FAA procurements, including interagency agreements, with the exception of real property, utilities, and those procurements using the commercial and simplified purchase method.

3.2.1.2 POLICY

Procurement Planning is an indispensable component of the total acquisition process. IPTs are expected to use procurement planning as an opportunity to contemplate the entire procurement process so that sound judgments and decision making will facilitate the success of the overall program. For procurements not addressed in an Acquisition Strategy Plan (ASP) or Integrated Program Plan (IPP) approved program, procurement planning should be appropriate and proportionate to the complexity and dollar value of the requirement.

3.2.1.2.1 Market Analysis

For procurements not addressed in an ASP or IPP approved program, the market analysis is to initiate industry involvement, develop and refine the procurement strategy, obtain price information, determine if commercial items exist, determine the level of competition, identify market practices, and obtain comments on requirements. The magnitude and degree of formality of the market analysis should be proportionate to the contemplated procurement. The market analysis may be as simple as a telephone call or as formal as a market survey advertisement to learn of industry capabilities. All market analysis, formal or informal, will be appropriately documented.

3.2.1.2.2 Procurement Plan

For procurements not addressed in an ASP or IPP approved program, a plan for each contemplated procurement or class of procurements should address the significant considerations of the procurement action. A procurement plan may cover more than one contract. The procurement plan represents the IPT agreement on the conduct of the procurement. For less complex procurements, procurement plans are not required if deemed unnecessary by the IPT.

3.2.1.3 GUIDANCE AND PRINCIPLES

For procurements not addressed in an ASP or IPP approved program, the following elements should be considered in planning for procurements.

3.2.1.3.1 Development

Preference should be given to use of commercial and previously developed items whenever possible. Development of products and its associated costs and risks, should be avoided unless necessary to meet FAA needs. If developmental items are required, the need should be documented in the procurement plan.

3.2.1.3.2 Scope of Procurement

The scope of a procurement in terms of complexity, period of performance, dollar value, risk, and other factors should be considered in planning a procurement. As the scope of a procurement increases, the risk of unsuccessful management of the procurement also increases. Appropriate trade-offs should consider elements like: the management of a large complex procurement versus several smaller phased procurements, the systems integration role, total systems responsibility, the timing of benefits, technological obsolescence, and other factors.

3.2.1.3.3 Budget Allocation Release

Consideration should be given to releasing contract related budget information to industry in situations where the procurement involves development or multiple-year funding and is likely to be conducted competitively. If the IPT decides to release the information, the decision should be identified in the procurement plan.

3.2.1.3.4 Small Business and Socially and Economically Disadvantaged Business

The IPT should coordinate with representatives of the FAA Small Business Utilization staff as soon as requirements are defined. The purpose of this coordination is to identify opportunities for small businesses and small businesses owned and controlled by socially and economically disadvantaged individuals. FAA will work with the Department of Justice to ensure that programs designed to increase opportunities for disadvantaged businesses comply with the constitutional standards established by the Supreme Court in Adarand Constructors v. Peña, as well as the President's July 19, 1995, directive to the heads of executive departments and agencies on the "Evaluation of Affirmative Action Programs".

3.2.1.3.5 Quality Assurance

For complex systems or hardware acquisition, the IPT should coordinate with representatives of the Quality Assurance office as soon as procurement requirements are defined, to establish quality assurance requirements for the proposed procurement.

3.2.1.3.6 Labor Relations

When planning procurements, the IPT should comply with applicable FAA labor relations directives.

3.2.1.3.7 Maintaining Competition

Consideration should be given to methods of maintaining competition throughout the lifecycle of any procurement. Methods to be considered may include dual sourcing, obtaining repurchase data and data rights, open system designs, and any other appropriate methods.

3.2.1.3.8 Single Source Approval

The IPT determines whether the procurement should be conducted on a competitive or single source basis. The rationale for single source should be included in the procurement plan. Approval of the procurement plan constitutes approval of a single source procurement; no further approval or documentation is necessary.

3.2.1.3.9 Pre-Release Of Documents

Early release of program documents can be an important part of communication with industry. Releasing draft functional requirements, draft specifications, or a draft solicitation can be beneficial to industry as well as the FAA. Early and more progressively complete releases of the solicitation and feedback from industry should be part of the market analysis strategy.

3.2.1.3.10 Procurement Planning Alternatives

The following alternatives are for procurements not addressed in an ASP or IPP approved program.

Procurement Strategy Meeting

As an alternative to a formal written procurement plan and its associated approvals, a Procurement Strategy Meeting (PSM), which includes representatives of those organizations with a vested interest in the contemplated procurement, may be held. Approval of the PSM presentation constitutes approval of the procurement approach. Minutes from a PSM may be substituted for a written procurement plan. The presentation should address all of the items that would have been addressed in a procurement plan for the contemplated requirement. The IPT should consider the dollar value, complexity, organizational issues, and other factors to determine whether a higher level official should chair the meeting and approve the PSM presentation. Copies of the presentation should be distributed in sufficient time to allow issues to be identified and resolved. A presentation should not be substituted for a written procurement plan if the strategy is to go single source.

Procurement Plan

The IPT determines whether a written procurement plan is needed for each procurement or a related group of procurements. Consideration should be given to complexity, need for organizational agreement, risk, and significance of the procurement, and, to a lesser extent, dollar value and schedule requirements. The specific content of a procurement plan may be different for each procurement depending on the complexity, organizations involved, and other factors.

3.2.1.3.11 Changes to Procurement Plans

Changes to the procurement plan should be made as changes in the needs of the procurement occur. Changes to the procurement plan are approved at the IPT level.

3.2.1.3.12 Public Announcements

All procurements over \$50,000 must be publicly announced on the Internet or through other means. This requirement does not apply to emergency single source actions, exercise of options, or changes. For actions under \$50,000, a public announcement is optional.

3.2.2 SOURCE SELECTION

3.2.2.1 APPLICABILITY

Source selection policy and guidance are applicable to acquisitions for products and services except for real property, utilities, and agreements. There are two competitive procurement methods available for obtaining products and services through the FAA contracting process. The first method is described under Complex and Noncommercial Source Selection and is used for complex, large dollar, developmental, noncommercial items and services. This is the method that would typically be used for Joint Resources Council (JRC) approved acquisitions. The second method is described under Commercial and Simplified Purchase Method and is typically used for commercial items and are less complex, smaller in dollar value, and shorter term. Such products or services may be routine in nature and are generally purchased on a fixed price basis. Due to the nature, complexity, and dollar values of the JRC acquisitions, the procurement method used will be described in the IPP approved by the JRC.

3.2.2.2 POLICY

The FAA shall provide reasonable access for firms interested in obtaining contracts. The FAA's policy is to procure products and services from sources that offer the best value to satisfy the FAA's mission need. In selecting sources, the preferred method is to compete requirements for products and/or services among two or more sources. Contracting with a single source is also permitted when it is determined to be in the best interest of the FAA. The rationale basis for contracting without competition shall be documented in writing.

The IPT shall issue a public announcement informing industry of the FAA's procurement strategy prior to, or concurrent with, issuance of the initial SIR, if not previously announced.

Each SIR shall contain the specific evaluation criteria to be used to evaluate offeror submittals. Past performance should also be considered as an evaluation factor. All SSO selection or screening decisions shall be based on the evaluation criteria established in each SIR. Cost or price considerations shall be an evaluation factor in all selection decisions. All Request For Offers (RFOs) shall include a requirement for a formal cost or

price proposal. The IPT shall document the findings of the evaluation. Debriefings shall be conducted with all offerors that request them.

The guidelines provided below are intended to provide the CO and IPT with the flexibility to use any method of procurement deemed appropriate to satisfy the FAA's mission, considering the complexity, dollar value, and availability of products and services in the marketplace. The CO shall have warrant authority commensurate with the estimated value of the procurement.

Awards shall be made to responsible contractors only. To be determined responsible, a prospective contractor must:

- have adequate resources (financial, technical, etc.) to perform the contract, or the ability to obtain them;
- be able to comply with the required or proposed delivery or performance schedule, considering all existing business commitments;
- have a satisfactory performance record;
- have a satisfactory record of integrity and business ethics; or
- be otherwise qualified and eligible to receive an award under applicable laws and regulations.

The CO's signing of the contract shall constitute a determination that the prospective contractor is responsible with respect to that contract. When an offer is rejected because the prospective contractor is nonresponsible, the CO shall make a determination of nonresponsibility. The CO is given great discretion in making this determination.

3.2.2.3 COMPLEX AND NONCOMMERCIAL SOURCE SELECTION

This section establishes the FAA's guidance for evaluating and selecting sources for the award of complex, noncommercial competitive contracts. This process consists of up to five distinct phases, with the screening phase being the cornerstone. The five phases are:

- planning;
- screening;
- selection;

- debriefing (as requested); and
- lessons learned.

3.2.2.3.1 Selection Phases

3.2.2.3.1.1 Planning

Refer to the procurement planning section for further guidance.

3.2.2.3.1.2 Screening

Screening is the process by which the FAA will determine which offeror provides the best value to the FAA. The process is flexible and allows selection and award after one screening request. This process allows for award considering only price and the price-related factors included in the SIR. The number of distinct screening steps for a particular procurement will vary based on the complexity of the procurement. Provided below is guidance associated with the screening phase.

3.2.2.3.1.2.1 SCREENING INFORMATION REQUEST

The purpose of the SIR is to obtain information which will ultimately allow the FAA to identify the offeror which provides the best value, make a selection decision, and award the contract to conclude the competitive process. An SIR is a request by the FAA for documentation, information, presentations, proposals, or binding offers. Three categories of SIRs (see below) may be used according to the procurement strategy adopted by the IPT. Once the public announcement has been released, the SIR may be released to start the competitive process.

For a given procurement, the FAA may make a selection decision after one SIR, or the FAA may have a series of SIRs (with a screening decision after each one) to arrive at the selection decision. This will depend on the types of products and services to be acquired and the specific source selection approach chosen by the IPT. When it is desired to make a selection decision after one SIR, that SIR should be a request for offeror (see below). When multiple SIRs are contemplated, normally the initial SIR will request general information, and future SIRs will request successively more specific information.

The IPT will determine the type(s) of SIR(s) that are appropriate for each procurement. While formal solicitations may be utilized, they are not required. Therefore, initial SIRs need not state firm requirements, thus allowing the FAA to convey its needs to offerors in the form of desired features, or other appropriate means. However, firm requirements will ultimately be established in all contracts.

Each SIR should contain the following information: a definition of need, a request for specific information (with specific page and time limitations, if applicable), a closing date stating when submittals must be received in order to be evaluated, evaluation criteria (and relative importance, if applicable), a statement informing offerors how communications with offerors will be conducted during the screening, and an evaluation/procurement schedule (including revisions, as required). The evaluation/procurement schedule should be realistic and should alert the offerors to the fact that the FAA plans to adhere to its schedule and that offerors interested in award will be expected to adhere to this schedule.

The three categories of SIRs are SIRs for qualification information, screening information, and request for offers. Each category of SIR is discussed in detail below.

Qualification Information

Qualification information, used to qualify vendors and establish qualified vendor lists (QVLs), should only be requested if it is intended that the resultant QVL will be used for multiple FAA procurements. If the FAA does not intend to qualify vendors for future procurements, qualification information should not be requested.

Qualification information screens for those vendors that meet the FAA's stated minimum capabilities/requirements to be qualified to provide a given product or service. All vendors that meet the FAA's qualification requirements will be listed on the appropriate QVL for the stated products or services.

Requested qualification information (including equipment/products) should be tailored to solicit that information which will allow the FAA to make a determination as to which vendors meet the FAA's minimum qualification requirements for the required products or services. For products, the information required to make such a determination might be equipment/products for FAA testing, vendor testing, testing data, product documentation, and production capability. For services, the information required to make such a determination might be a capabilities statement and performance experience.

Once qualification information is requested, received, and evaluated in accordance with the evaluation plan, an QVL will be established for the given product/service. Once such a list is established, only qualified vendors may compete for the products or services. Public announcement is not required once the QVL is established. This list can be updated at the FAA's discretion. Each list should be regularly reviewed to determine whether it should be updated.

Screening Information

Screening information allows the FAA to determine which offeror(s) are most likely to receive award, and ultimately which offeror(s) will provide the FAA with the best value.

The screening information requested in the SIR should focus on information that directly relates to the key discriminators for the procurement.

The following are examples of the types of information which may form the basis of a screening request: equipment/products for FAA testing, vendor testing, testing data, technical documentation (commercial, if available/practicable), capability statements, quality assurance information, performance experience, sample problems, draft/model contracts, technical proposals (including oral presentations, if appropriate/practicable), commercial pricing information, financial condition information, cost or price information, and cost or price proposals. Each SIR shall include some cost or pricing information appropriate to the specific SIR level of detail.

Request for Offer

A request for offer is a request for an offeror to formally commit to provide the products or services required by the acquisition under stated terms and conditions. The response to the request for offer is a binding offer which is intended to become a binding contract if/when it is signed for by the CO. The request for offer may take the form of a formal solicitation, a proposed contract, or a purchase order.

3.2.2.3.1.2.2 COMMUNICATIONS WITH OFFERORS

Communications with all potential offerors should take place throughout the source selection process. During the screening, selection, and debriefing phases of source selection, communications are coordinated with the CO. Communications may start in the planning phase and continue through contract award. All SIRs should clearly inform offerors how communications will be handled during the instant screening phase. The purpose of communications is to ensure there are mutual understandings between the FAA and the offerors on all aspects of the procurement, including the offerors' submittals/ proposals. Information disclosed as a result of oral or written communication with an offeror may be considered in the evaluation of an offeror's submittal(s).

To ensure that offerors fully understand the intent of the SIR (and the FAA's needs stated therein), the FAA may hold a pre-submittal conference, and/or one-on-one meetings with individual offerors. One-on-one communications may continue throughout the process, as required, at the discretion of the IPT. Communications with one offeror do not necessitate communications with other offerors since communications will be offeror specific. Regardless of the varying level of communications with individual offerors, the CO should ensure that such communications do not afford any offeror an unfair competitive advantage. During these and future communications, as applicable, the FAA should encourage offerors to provide suggestions on all aspects of the procurement.

Communications may necessitate changes to the FAA request for offer and/or the offeror submittals. If this is the case, all competing offerors should be advised of the changes

and the FAA should establish firm/common cut-off dates for any and all required offeror revisions. However, if communications do not result in any changes, the FAA is not required to request or accept offeror revisions. Other than the use of "commercial competition techniques" as described in 3.2.2.5.3 for commercial items, the use of technical transfusion, technical leveling, and auctioning techniques are prohibited.

3.2.2.3.1.2.3 RECEIPT/EVALUATION OF SUBMITTALS

Once offerors have submitted responses to an SIR, the IPT will evaluate the submittals in accordance with the evaluation criteria stated therein and the evaluation plan. In order to be considered for an award, an offeror must submit a response to the initial SIR.

Evaluation Criteria

The evaluation criteria form the basis by which each offeror's submissions are to be evaluated. Once the criteria have been established and disclosed to offerors, criteria should not be modified without first notifying offerors and allowing offerors currently in the process to revise their submissions accordingly. Each SIR shall contain the specific evaluation criteria to be used to evaluate offeror submittals to the instant SIR. Evaluation criteria should be tailored to the characteristics of a particular requirement and should be limited to only the key discriminators in the ultimate selection decision. The criteria should avoid, whenever possible, the inclusion of detailed subcriteria (or subcriteria in general). Further, efforts should be made to ensure that there are no overlapping criteria. Initial SIRs do not require cost or price proposals but should require submission of more generalized cost or price estimates. Cost or price considerations shall be an evaluation factor in all selection decision(s).

Evaluation Plan

An evaluation plan shall be prepared by the IPT and approved by the SSO for all procurements accomplished under this section. Evaluation plans should be concise and tailored to the specific needs of the procurement. The evaluation plan should include the name of the SSO and the names of the IPT members and evaluators, the evaluation criteria, the evaluation methods and processes, the schedule, and any other information related to the source selection. The evaluation plan should be completed and approved prior to the issuance of any SIR.

Evaluation Method

The evaluation methodology should be set up to allow for maximum flexibility in selecting the offeror(s) providing the best value. In order to facilitate such flexibility, the following should be considered in setting up evaluations:

- relative importance between criteria is not required (when relative importance is utilized, the relative order of importance between criteria should be disclosed);
- each SIR may incorporate separate and/or distinct criteria that relate to the specific SIR discriminators;
- the use of either adjectival or numerical ratings is acceptable;
- comparative evaluations between offerors' proposals/products are acceptable;
- the IPT should be selective/inventive concerning the screening requirements for document submissions (e.g., oral presentations, sample tests, plant visits, etc.);
- communications with offerors during the evaluation may help clarify submittals, allow a fuller understanding of the offeror submittals, and provide a more comprehensive evaluation;
- testing of products is encouraged to the maximum extent practical ("try before you buy"); and
- award on initial offers to other than the low cost or price offer is allowed.

Evaluation Process

The evaluation will be conducted by the IPT, in accordance with the stated evaluation criteria and evaluation plan. The IPT (including any additional required evaluators and/or advisors) should be limited in size and dedicated through the completion of the acquisition. The IPT is expected to apply sound judgment in determining appropriate variations and adaptations necessary for individual situations, provided that these do not constitute a departure from the basic concepts and intent of the evaluation plan and SIR(s). Communications may be considered in the evaluation of an offeror's submittal(s). Verifiable information from outside sources may be considered in the evaluation and should be disclosed to the offeror during the communication process. Any such findings should be noted in the evaluation report.

Evaluation Report

The IPT shall document the results of the evaluation, including recommendations, if applicable.

3.2.2.3.1.2.4 CHANGES IN REQUIREMENTS

If, after release of an SIR, it is determined that there has been a change in the FAA's requirement(s), all offerors competing at that stage should be advised of the change(s) and afforded an opportunity to update their submittals accordingly.

The SSO has authority to waive a requirement at any time after release of an SIR, without notifying all offerors, if: all offerors have been alerted that offeror specific waiver requests will be considered, and the waiver does not affect a significant requirement that changes the essential character or conditions of the procurement.

If a waiver would affect a significant requirement that changes the essential character or condition of the procurement, the FAA should, at a minimum, make the waiver known to all offerors still competing for award, and provide them an opportunity to revise their SIR submittal accordingly. All determinations relating to changes in requirements, including waivers, will be documented in the evaluation report.

3.2.2.3.1.2.5 SSO DECISION

Based on a review of the IPT's evaluation report, the SSO may either:

- make a selection decision (see the selection phase below);
- make a screening decision by screening those offerors determined to be most likely to receive award, thus continuing the screening phase;
- amend and re-open to initial offerors; or
- cancel the procurement.

To ensure the integrity of the FAA competitive source selection process, all SSO decisions should be based on the evaluation criteria established in the SIR and have a rational basis. All offerors that are eliminated from the competition based on any screening decision should be provided with the basis for their elimination within five working days of the screening decision. They should be informed that they may request a debriefing after contract award. Screening decisions may be made without cost or price considerations.

If a screening decision, rather than a selection decision, is made, the IPT should issue another SIR (and repeat the screening process stated above) in order to make a selection decision (or another screening decision) among the remaining offerors. The screening process, starting at the issuance of an SIR, may be repeated until a selection decision is made or the procurement is canceled.

3.2.2.3.1.3 Selection

The selection decision shall be based on the stated evaluation criteria including cost or price considerations to identify the best value.

The IPT must brief the SSO on their evaluation findings. The selection of the offeror who is expected to provide the best value solution is a matter committed to the discretion of the SSO. The SSO applies sound business judgment to the evaluation of the offeror's proposed solution against the stated evaluation criteria. In each case, the SSO should provide a rational basis for the screening or selection decision. The SSO should document the selection decision in the SSO decision memorandum (in cases where the CO and the Technical Officer are the only IPT members, the evaluation report and the SSO decision memorandum may be one report). In making the selection decision, the SSO may accept or reject the IPT's recommendations provided there is a rational basis to reject the IPT's recommendation.

Based on the SSO's decision, the CO will transmit an RFO to the selected offeror. The selected offeror will return a fully executed RFO. Upon the CO's signature, the RFO becomes a binding contract. If the FAA and the selected offeror cannot come to an agreement, the FAA may select another competing offeror for communications/award without issuance of further SIRs.

3.2.2.3.1.4 Debriefing (if requested)

Once an award has been made, all offerors who participated in the competitive process will be notified of the award and given three working days from receipt of the award notification to request a debriefing. Debriefings are intended to provide meaningful feedback to offerors on their submission. The purpose of the debriefing is to improve the offeror's ability to successfully compete for future FAA business by discussing the strengths and weaknesses of the offeror's submissions. The debriefing should provide the offeror with the following information:

- the SSO's Selection Decision;
- the offeror's evaluated standings relative to the successful offeror(s); and
- a summary of the evaluation findings (excerpts from evaluation summary documentation relating to the specific offeror).

The CO should request detailed questions from the unsuccessful offeror so the FAA can provide meaningful information during the debriefing. Debriefings should be conducted, as soon as practicable, with all offerors that request them.

3.2.2.3.1.5 Lessons Learned

A lessons learned memorandum is a valuable tool in which the IPT can relay their procurement experiences to other FAA acquisition personnel. Once an award has been made, the IPT should communicate their learning experiences. The communication should highlight those issues/processes that had significant impact on their procurement. Further, the IPT should discuss what they would do differently to ensure a more comprehensive evaluation and/or more timely award.

3.2.2.3.2 Responsibilities

The responsibilities listed below are intended to be guidelines to ensure a successful evaluation by the IPT. The IPT must apportion these responsibilities to fit the needs of specific procurements (and IPTs).

3.2.2.3.2.1 Source Selection Official

The SSO has full responsibility and authority to select the source(s) for award. The SSO's responsibilities are to:

- approve the evaluation plan;
- ensure that the IPT is properly constituted and includes all necessary disciplines;
- make all screening decisions and selection decisions; and
- act as the IPT leader unless designated otherwise.

3.2.2.3.2.2 Integrated Product Team

The IPT is responsible for the proper and efficient conduct of the source selection process. The IPT's responsibilities and duties are to:

- draft all SIRs;
- formulate the evaluation plan for the acquisition;
- review existing lessons learned reports that provide meaningful insights into the acquisition;
- ensure an in-depth review and evaluation of each submitted screening document against the FAA requirements and the stated evaluation criteria;

- prepare the evaluation report (including recommendations, if applicable), using sound business judgments to assist the SSO in making the down selection and/or award decisions;
- conduct all debriefings;
- exercise oversight of all procedural and administrative aspects of the procurement;
- select, as required, advisors to assist the IPT in their evaluation;
- prepare the documentation, at the SSO's request, that provides the SSO's decision rationale; and
- prepare a lessons learned memorandum after the source selection has been accomplished.

3.2.2.3.2.3 *Contracting Officer*

The CO's responsibilities and duties are to:

- ensure, when applicable, conflict of interest documentation is obtained from all IPT members, and determine, with legal counsel review, if any conflicts of interests exist;
- ensure that IPT members are briefed on the sensitivities of the source selection process, the prohibition against unauthorized disclosure of information (including their responsibility to safeguard proposals and any documentation related to the IPT's proceedings), and the requirements pertaining to conflicts of interest;
- coordinate communications with industry;
- participate during the screening, selection, and debriefing phases of source selection to ensure fair treatment of all offerors;
- issue, as required, solicitation amendments and letters, SIRs, and SIR amendments to industry;
- control all written documentation issued to industry;
- ensure that the contract is signed by an official with the authority to bind the contractor;

- with guidance from legal counsel, assure that all contractual documents are in compliance with applicable laws and regulations;
- serve as the SSO if the procurement is not subject to the JRC process or is specifically delegated by the IPT lead; and
- execute, administer, and terminate contracts and make related determinations and decisions that are contractually binding.

3.2.2.3.2.4 The Integrated Product Team Leader

The IPT Leader's responsibilities and duties are to:

- serve as the SSO if the procurement is subject to the JRC process or unless otherwise delegated;
- assure that the FAA's program needs are acquired through the source selection process;
- assure that the FAA's SIRs include adequate definition of requirement(s);
- assure that the technical evaluation is performed in accordance with the stated evaluation criteria;
- assure that qualified technical evaluators, if required, are chosen to assist the IPT in the evaluation; and
- assure team competence, cohesiveness, and effectiveness.

3.2.2.3.2.5 Advisors

Advisors may be appointed by the IPT to provide specific guidance to the IPT when their essential specialized expertise is not available within the IPT.

3.2.2.3.2.6 Nongovernment Evaluators and Advisors

Nongovernment personnel may be used as evaluators and/or advisors, and will be subject to the conflict of interest and disclosure of information policies stated herein. Notice of any nongovernment participation will be provided in the SIR.

3.2.2.4 SINGLE SOURCE SELECTION

The FAA may contract with a single source when it is determined to be in the best interest of the FAA and the rational basis is documented. This rational basis should be based on actions such as emergencies, standardization, and only source available, which are necessary and important to support the FAA's mission. The decision to contract with a single source may be made as part of the overall program planning. The rational basis may either be approved as part of the Integrated Program Plan or as a separate document. If an Integrated Program Plan is not required, the single source justification should be endorsed by the IPT and approved by the CO.

Market analysis should be conducted to support each single source decision, except for emergencies. The method and extent of the analysis will be dependent on the requirement.

After the decision to contract with a single source has been approved, a public announcement will be made for any action over \$50,000, except in emergencies. The purpose of the announcement is to inform industry of the basis of the decision to contract with the selected source.

A basic contract may be modified: to exercise an option, to satisfy a follow-on procurement for more of the same products/services without seeking additional competition, or obtaining additional single source approvals.

3.2.2.4.1 Single Source Procurement Process

The single source procurement process includes planning, communications, award, and lessons learned. The actions for an individual phase within the process may vary to accommodate emergencies, complex requirements, commercial, simplified, or follow-on procurements. The procurement process should be adapted to the complexity of each individual procurement.

3.2.2.4.1.1 Emergencies

In rare instances, an emergency situation such as a threat to loss of life/property, national security, or restoration of an Air Traffic Control facility may require immediate contracting with a single source. In these instances, the CO may give a contractor verbal authorization to proceed and the process phases may be consolidated or completed after the fact. As a minimum the CO should, as soon as practical:

- obtain funding certification;
- document the single source decision; and
- confirm with written notification.

3.2.2.4.1.2 Nonemergencies

For single source nonemergency procurements, planning includes:

- analyzing the market to determine potential sources;
- developing an independent FAA cost estimate;
- obtaining funding certification;
- obtaining approval of justification for single source, except for follow-on or exercise of options; and
- issuing public announcement, if in excess of \$50,000.

For single source nonemergency procurements, communication includes:

- holding communications with the contractor to reach a mutual understanding of the requirement, probable contract terms and conditions, contract line item number structure, technical approach, level of current cost or pricing data, bill of material, and labor and overhead rates;
- issuing a proposed contract, draft modification, or solicitation;
- receiving and evaluating the contractor's proposal relevant to technical qualitative and quantitative evaluation, cost or price analysis, audit of rates, and bill of material. The level of review and analysis may vary depending upon the complexity of each individual procurement;
- developing a pre-negotiation position;
- negotiating the final terms, conditions, and price. Communications may continue up to the point of award and may be terminated at any time by the CO; and
- awarding the contract or modification.

3.2.2.4.1.3 Documentation

The contract file should include documentation which provides the rationale to support the decisions related to the procurement. The supporting documentation should be tailored to correspond with the dollar value and complexity of the procurement. The following are suggested for possible inclusion in supporting documentation:

- the purpose of the communication and description of the procurement;
- the name and position of each person representing the contractor and the FAA in the communication;
- the current status of the contractor's purchasing system when material is a significant cost element and, if applicable, the current status of other contractor systems (e.g., estimating, accounting, compensation);
- any cost or pricing data used and any action taken by the CO and the contractor regarding the cost or pricing data;
- a summary of the contractor's proposal, the field pricing report recommendations, and the reasons for any pertinent variances from the field pricing report recommendations. Where the determination of price reasonableness is based on cost analysis, the summary should address the amount of each major cost element proposed, recommended, and communicated;
- the most significant facts or considerations controlling the establishment of the pre-negotiation objective and the price, including an explanation of any significant differences between the two positions;
- the basis for determining the profit or fee pre-communication objective and the profit or fee communicated considering programmatic, technical, schedule, and cost risks; and
- a statement that a determination has been made that the price is fair and reasonable.

3.2.2.4.1.4 Lessons Learned

Communicating lessons learned to anyone who could benefit is optional, but encouraged.

3.2.2.5 COMMERCIAL AND SIMPLIFIED PURCHASE METHOD

The FAA may acquire commercial items or simplified products and services from the competitive market place using the simplified purchase method described herein and best commercial practices. Commercial and simplified purchases are used for commercial items or for products or services which have been sold at established catalog or market prices and are generally purchased on a fixed price basis.

3.2.2.5.1 Planning

Procurement planning should be accomplished for all simplified and commercial purchases. The level of planning and announcement should be dictated by the nature and complexity of the requirement, commercial availability, dollar value, urgency of the requirement and degree of previous procurement history.

The purpose of procurement planning is to:

- determine whether commercial items meet the FAA's needs;
- identify potential commercial sources; and
- publicly announce requirements in excess of \$50,000.

Market analysis should be simple and straight-forward, and may include information based on personal knowledge of the market, historical purchase information, qualified vendors list, commercial catalogs, trade journals, newspapers, other professional publications or local telephone directories.

3.2.2.5.2 Sourcing Determination

The CO should solicit an appropriate number of vendors to ensure quality products and services are delivered in a timely manner at a fair and reasonable price. Requirements should be stated in commercial terms generally understood and accepted in the industry.

3.2.2.5.3 Screening

The CO should determine the appropriate screening approach and format for vendor's responses (e.g., electronic, written, oral, use of standard commercial or FAA forms). The CO may also conduct communications with individual offerors, as appropriate, to address offeror understanding of the requirement, performance capability, prices, and other terms and conditions. For commercially available products, the CO is encouraged to use "commercial competition techniques" such as continuing market research throughout the process by using vendor proposals as the source of prices and commercially available capabilities and sharing that information with other vendors.

3.2.2.5.4 Selection Decision and Award

The CO's selection decision should be based on the FAA's stated evaluation criteria. The selection decision for commercial or simplified purchases should be based on the best value to the FAA including, but not limited to, factors such as price, functional specifications, delivery capability, warranty, and payment terms. This may be accomplished through establishing specific evaluation criteria with an accompanying

evaluation plan as described under Complex, Noncommercial Source Selection, and making the selection based on the stated criterion. It may also be based on the most favorable solution available in the commercial market, as determined by the FAA, as described under Commercial and Simplified Purchase Method, or through a combination of methods depending on complexity, risk, dollar value, and urgency of the requirement.

At the discretion of the CO, purchases may be made under existing FAA or Government contracts or existing interagency agreements. In addition, purchases may be made using the following mechanisms:

- FAA purchase card;
- third party draft;
- purchase order;
- Purchase Order-Invoice-Voucher (Standard Form 44);
- contract;
- orally (only in emergency situations) with proper documents processed as soon as possible following the oral order; and
- other methods, when deemed appropriate and properly documented.

3.2.2.5.4.1 Documentation

The method of selection and rationale for awards, and a determination that the price is fair and reasonable should be documented. The extent of the documentation depends on the complexity and dollar value of the procurement action.

3.2.2.6 UNSOLICITED PROPOSALS

3.2.2.6.1 Policy

The FAA may consider and/or accept unsolicited proposals when it is determined to be in the best interest of the FAA, based on the guidance provided herein.

3.2.2.6.2 Guidance

Unsolicited proposals are a valuable means for FAA to obtain innovative or unique methods or approaches to accomplishing its mission from sources outside the FAA.

Advertising material, commercial item offers, contributions, or technical correspondence are not considered to be unsolicited proposals. A valid unsolicited proposal must:

- be innovative and unique;
- be independently originated and developed by the offeror;
- be prepared without FAA supervision;
- include sufficient detail to permit a determination that the proposed work could benefit the FAA's research and development, or other mission responsibilities; and
- not be an advance proposal for a known FAA requirement that can be acquired by competitive methods.

3.2.2.6.2.1 Evaluation of Unsolicited Proposals

3.2.2.6.2.1.1 RECEIPT AND INITIAL REVIEW

Unsolicited proposals should be addressed to:

Federal Aviation Administration
Attn.: Office of Acquisitions, Acquisition Policy and Procedures Division
(ASU-100)
800 Independence Avenue, SW
Washington, DC 20591

Once received, the FAA contact point determines if the unsolicited proposal:

- contains sufficient technical and cost information; and
- has been signed by a responsible official or other representative authorized to contractually obligate the offeror before initiating a comprehensive evaluation.

If the proposal meets these requirements, the contact point promptly acknowledges and processes the proposal. If it does not, the contact point provides the offeror an opportunity to submit the required data.

The FAA is not required to perform comprehensive evaluations of unsolicited proposals not related to its mission. If such proposals are received, the FAA contact point promptly replies to the offeror, states how the FAA interprets the proposal, and why it can not be evaluated.

3.2.2.6.2.1.2 PROHIBITIONS

FAA personnel should not use any data, concept, idea, or other part of an unsolicited proposal as the basis, or part of the basis, for a solicitation or in communications with any other firm unless the offeror is notified of and agrees to the intended use. However, this prohibition does not preclude using any data, concept, or idea available to the FAA from other sources without restrictions.

FAA personnel should not disclose restrictively marked information included in an unsolicited proposal. The disclosure of such information concerning trade secrets, processes, operations, style of work, apparatus, and other matters, except as authorized by law, may result in criminal penalties under 18 U.S.C. 1905.

3.2.2.7 CONTRACTOR QUALIFICATIONS

3.2.2.7.1 Applicability

This section applies to all proposed contracts with any prospective contractor that is located in the United States, its possessions, or Puerto Rico; or elsewhere, unless application would be inconsistent with the laws or customs where the contractor is located. It prescribes FAA policies, standards, and procedures pertaining to prospective contractors' responsibility; debarment, suspension, and ineligibility; qualified products; first article testing and approval; contractor team arrangements; and conflicts of interest.

3.2.2.7.2 Policy

The CO shall ensure that contracts are awarded only to responsible, prospective contractors. No award shall be made unless the CO makes an affirmative determination of responsibility. Conversely, if an offeror is able to conclusively demonstrate the capability to perform on the instant solicitation, the CO shall not deny the offeror the opportunity to do so.

3.2.2.8 DESCRIBING FAA NEEDS

3.2.2.8.1 Applicability

The requirements herein apply to all FAA procurements and agreements except real property and utilities.

3.2.2.8.2 Policy

The FAA will describe its needs clearly and succinctly in writing, absent special or emergency circumstances. IPTs may describe needs as minimum requirements, goals, or in another form well suited to the contemplated procurement.

3.2.3 COST AND PRICE METHODOLOGY

3.2.3.1 APPLICABILITY

This section describes policies for evaluating proposals for initial contract prices, subcontract prices, and contract modifications, except for real property and utilities.

3.2.3.2 POLICY

The FAA policy is to employ any method of cost or price analysis to determine fair and reasonable prices for the procurement of products and services. Price analysis is the preferred method for evaluating competitive proposals.

3.2.3.3 GUIDANCE AND PRINCIPLES

3.2.3.3.1 Cost or Pricing Data

3.2.3.3.1.1 Requirement Decision

Cost or pricing data shall not be required from offerors unless the CO determines price competition is not adequate to support a determination of price reasonableness. When the CO determines adequate price competition exists, cost or pricing data shall not be requested. In situations with established catalog or market prices, prices set by law or regulation, and or commercial items, price analysis is sufficient and cost or pricing data shall not be requested.

3.2.3.3.2 Cost Accounting Standards

Cost Accounting Standards (CAS) do not apply to contracts for commercial items. Full or modified CAS coverage may be applied to cost type contracts only.

3.2.4 TYPES OF CONTRACTS

3.2.4.1 APPLICABILITY

This section is applicable to contracts for procurement of all products and services. Performance based contracting applies to all service contracts.

3.2.4.2 POLICY

Contracts may be of any type or combination of types except for cost plus a percentage of cost contracts. Selecting the contract type may be a matter for communication and

requires the exercise of sound judgment. Communications regarding the contract type and price are closely related and should be considered together. The objective is to choose a contract type and price (or estimated cost and fee) that will result in reasonable contractor risk and provide the contractor with the greatest incentive for efficient and economical performance. The members of the IPT shall, to the extent possible, strive to assess and discuss risks and to make clear the requirements, terms, and conditions between the parties of the contract. Contract terms and conditions shall be reasonable to both the FAA and the contractor. Performance requirements shall be realistic, manageable, and within the control of the parties to the contract. The use of fixed price contracts is strongly encouraged whenever appropriate. Development contracts may be incrementally phased fixed price contracts.

When possible, service contracts should incorporate performance based contracting methods to encourage contractor innovation and efficiency, and to help ensure contractors provide timely, cost-effective, and quality performance.

All contracts, except those issued in emergency situations, shall be in writing.

3.2.4.3 GUIDANCE AND PRINCIPLES

The types of contracts that may be used for FAA procurements are included in the tool kit. Types of contracts other than those specified in the tool kit may be used when approval has been obtained from an official one level above the CO within the contracting organization.

Contracting officers should clearly identify the type of contract(s) at the front of each contract and in SIRs, when appropriate. Where multiple types of contracts are used in one contract, performance requirements, terms and conditions, and prices (or estimated cost and fee) for each type of contract should be clearly separated and partitioned.

The multi-year contract may be used for the acquisition of products and services in accordance with any applicable restrictions and appropriate appropriations acts.

3.2.5 CONTRACTOR ETHICAL GUIDELINES

3.2.5.1 APPLICABILITY

This policy is applicable to all contracts except those items procured under commercial and simplified purchase methods.

3.2.5.2 POLICY

FAA business shall be conducted in a manner above reproach and, except as authorized by statute or regulation, with complete impartiality and with preferential treatment for none.

3.3 CONTRACT FUNDING, PAYMENT AND COST PRINCIPLES

3.3.1 CONTRACT FUNDING AND PAYMENT

Contract payment processes expedite the performance of essential contracts. The FAA will structure payment plans and schedules that are conducive to efficient and economical contract performance.

3.3.1.1 APPLICABILITY

This section applies to all contracts. This section includes:

- payments;
- prompt payment;
- nondelivery payments (commercial and noncommercial);
- contract funding; and
- debt collection.

3.3.1.2 POLICY

3.3.1.2.1 Payment

Prudent contract payment schemes expedite the performance of essential contracts. The CO should strive to structure the contract to allow frequent partial deliveries. If partial deliveries are not possible or the interval between deliveries is long, nondelivery payments may be necessary for efficient and economical contract performance.

3.3.1.2.2 Prompt Payment

The FAA should make payments for all acceptable deliveries within 30 days after receipt of a proper invoice and receiving report. Interest will apply to any payment later than 30

days. However, interest will not apply to late payments on interim vouchers under time-and-material, labor-hour, and cost reimbursement contracts regardless of whether products or services were delivered, received, and accepted by the FAA.

3.3.1.2.3 Nondelivery Payments (commercial and noncommercial)

The CO may use any of the nondelivery payment methods available for use. Other types of nondelivery payments may be made as long as they are mutually agreed upon and the interest of the FAA and the U.S. taxpayer are protected (e.g., security, adequate accounting system, etc.). All nondelivery payment plans not described in this section require approval one level above the CO.

3.3.1.2.4 Contract Funding

The FAA shall comply with the Anti-Deficiency Act and other fiscal laws.

3.3.1.2.5 Debt Collection

Debt collection is the responsibility of the CO in coordination with the payment office. Interest shall be accessed on all uncollected debt in accordance with this section.

3.3.2 CONTRACT COST PRINCIPLES

3.3.2.1 APPLICABILITY

The FAA cost principles and procedures shall be used in price negotiated supply, service, experimental, developmental, and research contracts and contract modifications with commercial organizations whenever cost analysis is performed.

In addition, the CO shall incorporate the FAA cost principles and procedures in contracts with commercial organizations as the basis for:

- determining reimbursable costs under (i) cost-reimbursement contracts and cost-reimbursement subcontracts under these contracts performed by commercial organizations and (ii) the cost-reimbursement portion of time-and-materials contracts except when material is priced on a basis other than at cost;
- Negotiating indirect cost rates, when:
- FAA has division or corporate contract administration responsibilities;
- quick close-out procedures are used; or

- indirect rate caps are negotiated in the contract;
- proposing, negotiating, or determining costs under terminated contracts;
- price revision of fixed-price incentive contracts;
- price redetermination of price redetermination contracts; and
- pricing changes and other contract modifications.

When division or corporate contract administration responsibilities rest with another Government agency, the FAA will agree to cost principles of the administering FAA for the determination or negotiation of indirect rates not covered by (i) or (ii) above.

3.3.2.2 POLICY

FAA cost principles and procedures shall be used for the pricing of contracts, subcontracts, and modifications to contracts and subcontracts whenever cost analysis is performed and the determination, negotiation, or allowance of costs when required by a contract clause.

3.4 BONDS, INSURANCE, AND TAXES

3.4.1 BONDS AND INSURANCE

3.4.1.1 APPLICABILITY

This section applies to construction contracts subject the Miller Act or any other contracts that the CO determines would benefit from use of bid/bond guarantees and insurance that would protect the interest of the FAA.

3.4.1.2 POLICY

The FAA will comply with the intent of the Miller Act (40 U.S.C. 270a-270f) by requiring payment and performance bonds for construction contracts over \$25,000. The FAA may also invoke bid guarantees, payment bonds, performance bonds, and insurance for any contract where it is deemed necessary to protect the interest of the FAA.

3.4.2 TAXES

3.4.2.1 APPLICABILITY

This section prescribes guidance for (a) using tax clauses in contracts (including foreign contracts), (b) asserting immunity or exemption from taxes, and (c) obtaining tax refunds. It explains Federal, State, and local taxes on certain products and services acquired by executive agencies and the applicability of such taxes to the Federal Government. It is for the general information of Government personnel and does not present the full scope of the tax laws and regulations.

3.4.2.2 POLICY

The FAA policy is to provide appropriate contract clauses for (a) Federal Excise Taxes levied on the sale or use of particular products or services, (b) exemption of Federal Excise Taxes, and (c) exemption of Federal purchases and property from state and local taxes. The IPT shall use the appropriate clauses for the tax situation at hand.

3.5 PATENTS, RIGHTS IN DATA AND COPYRIGHTS

3.5.1 APPLICABILITY

The policies prescribed in this section are applicable to all contracts involving intellectual property issues.

3.5.2 POLICY

Patents, copyrights, and other rights in data are valuable intellectual property. The FAA acquires patents, copyrights, and other rights in data as necessary to:

- enhance the competitive process;
- ensure the ability to use, maintain, repair, and modify products procured under FAA contracts;
- recoup development costs of, and fund improvements in, products and equipment;
- develop products for FAA and public use; and
- protect its position in the competitive marketplace.

3.6 SOCIO-ECONOMIC AND OTHER POLICIES AND PROGRAMS

3.6.1 SMALL BUSINESS UTILIZATION PROGRAM

3.6.1.1 APPLICABILITY

The policies and guidance contained herein are applicable to FAA procurements for products and services except for utilities, real property, agreements, and those procurements using the simplified purchase methods.

3.6.1.2 POLICY

The FAA shall implement and aggressively strive to provide small businesses and small businesses owned and controlled by socially and economically disadvantaged individuals attainable and reasonable opportunities to participate as prime contractors and subcontractors for the products and services procured by the FAA. The FAA's Small Business Utilization staff currently has and will continue to have responsibility for:

- FAA's policy and program on the utilization of small business and small businesses owned and controlled by socially and economically disadvantaged individuals;
- establishing mechanisms for monitoring and evaluating the effectiveness of the small business program; and
- ensuring FAA-wide implementation and accomplishment of the small business program objectives.

Key features of the small business program will include:

- competitive set-asides;
- establishment of eligibility criteria and measurable prime contracting and subcontracting goals; and
- vigorous outreach efforts.

3.6.1.3 GUIDANCE AND PRINCIPLES FOR THE SMALL BUSINESS PROGRAM

3.6.1.3.1 Program Goals

Prior to the end of each fiscal year, measurable annual FAA wide major procurement program goals (including subcontracting goals) will be established to provide attainable and reasonable opportunities for small businesses and small businesses owned and controlled by socially and economically disadvantaged individuals to participate in contracts awarded by the FAA for the next fiscal year.

3.6.1.3.2 Prime Contracting with Small Businesses

When appropriate, individual procurements may be set aside for competitive award among small businesses.

3.6.1.3.3 Set-Asides to Very Small Businesses

When appropriate, individual procurements may be set aside for competitive award among very small businesses. Special attention will be given to service contracts for very small businesses.

3.6.1.3.4 Subcontracting with Small Businesses and Small Businesses Owned and Controlled by Socially and Economically Disadvantaged Individuals

In procurements estimated to exceed \$5,000,000 (\$1,000,000 for construction), the CO should incorporate in the contract subcontracting provisions (including attainable and reasonable subcontracting goals for the participation of small businesses and small businesses owned and controlled by socially and economically disadvantaged individuals). Subcontracting provisions are not required for commercial items or when there are no subcontracting possibilities or when the prime contractor is a small business or a small business owned and controlled by a socially and economically disadvantaged individual. Contractors should be required to periodically report data on subcontracting accomplishments in sufficient detail to determine the extent of the contractor's attainment of subcontracting goals.

3.6.1.3.5 Business Declaration

To preserve the integrity and foster the objectives of the small business program, the FAA must satisfy itself that the ownership, control, and day-to-day management requirements of the program are fulfilled. Each small business claiming small business

or small business owned and controlled by socially and economically disadvantaged individuals, eligibility should be required to provide evidence of eligibility prior to award (including small business or small businesses owned and controlled by socially and economically disadvantaged individuals subcontractors). The FAA may rely on business declarations using the Business Declaration Form in Appendix D. The FAA reserves the right to review and verify each firm's program eligibility. If the firm is not a small business or a small business owned and controlled by socially and economically disadvantaged individuals, as defined by the standard industrial classification (SIC) code size standards, it will not qualify as small business.

3.6.2 LABOR LAWS

3.6.2.1 APPLICABILITY

The Davis Bacon Act (40 U.S.C. 276a-276a-7), Convict Labor (18 U.S.C. 4082 (c)(2)), Copeland Act (18 U.S.C. 874 and 40 U.S.C. 276c), Walsh-Healey Public Contracts Act (41 U.S.C. 35-45), Equal Employment Opportunity (E.O. 11141 (29 FR 2477)), Service Contract Act (41 U.S.C. 351), and other labor laws and regulations will apply to acquisitions for products, services, and construction materials.

3.6.2.2 POLICY

The FAA will comply with labor laws when acquiring products, services, and construction materials.

3.6.3 ENVIRONMENT, CONSERVATION, OCCUPATIONAL SAFETY, AND DRUG-FREE WORKPLACE

3.6.3.1 APPLICABILITY

This section applies to all FAA contracts performed in the United States.

3.6.3.2 POLICY

It is the policy of the FAA to contract with entities that are in compliance with applicable environmental, energy, safety, and drug-free workplace laws, orders, and regulations.

3.6.3.2.1 Pollution

To implement agency policy the FAA will not contract with entities listed by the U.S. Environmental Protection Agency (EPA) in 40 CFR Part 15 as violating facilities under the Clean Air Act (42 U.S.C. 7401 et seq) or the Clean Water Act (33 U.S.C. 1251 et

seq). If contracting with violating activities is required to meet agency requirements the reasons should be documented in the contract file and communications initiated with appropriate enforcement agencies.

3.6.3.2.1.1 Conservation

3.6.3.2.1.1.1 ENERGY CONSERVATION

The FAA will apply energy conservation and efficiency factors in acquisitions when their use would be meaningful, practical, and consistent with meeting agency requirements. These factors, if used, will be identified in the planning and solicitation documents.

Energy Policy and Conservation Act (42 U.S.C. 6361 (a)(1)) and Executive Orders 11912, 12038 and 12148.

3.6.3.2.1.1.2 RECOVERED/RECYCLED MATERIALS

In describing requirements for products and services the FAA will encourage the use of recovered or recycled materials consistent with meeting agency requirements and good business practice. The FAA will not exclude the use of recovered or recycled materials without a sound engineering or operational basis.

Resource Conservation and Recovery Act (42 U.S.C. 6901).

3.6.3.2.1.2 Drug-Free Workplace

The FAA will not award a contract to any entity unless it has certified that it is a drug free workplace or the entity will be deemed unqualified and ineligible for award. After contract award, if there is adequate evidence to suspect that the contractor submitted a false certification or failed to comply with the certification, the FAA may suspend payments, terminate the contract for default, debar or suspend the contractor, or take other appropriate action to obtain quality performance by a lawfully operating contractor.

3.6.3.2.1.3 Hazardous and Radioactive Materials

3.6.3.2.1.3.1 HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA

The FAA intends to comply with Occupational Safety and Health Administration (OSHA) regulations on hazardous materials, conditions and precautions. In order to comply with these regulations the FAA must obtain information from contractors when hazardous materials are provided to the FAA. Contractors will be required to identify any hazardous materials, as defined in Federal Standard 313, delivered under a contract

and provide Material Safety Data Sheets for hazardous materials (contract clause 52.223-3.)

3.6.3.2.1.3.2 NOTICE OF RADIOACTIVE MATERIAL

The contractor will be required to notify the FAA prior to delivery of radioactive material that requires specific licensing under the Atomic Energy Act of 1954 or material with a specific activity of greater than .002 microcuries per gram or a specific activity per Rem of greater than .01 microcuries.

3.6.4 FOREIGN ACQUISITION

The FAA will follow applicable Buy-American Act (41 U.S.C. S. 10) provisions of law.

3.7 PROTECTION OF PRIVACY AND FREEDOM OF INFORMATION

3.7.1 APPLICABILITY

Protection of privacy and freedom of information are applicable to all FAA procurements, agreements, real property, utilities credit cards, commercial and simplified purchase method.

3.7.2 POLICY

When the FAA contracts for the design, development, or operation of a system of records on individuals, the FAA shall apply the requirements of the Privacy Act to the contractor and its employees working on the contract.

The FAA shall comply with the Freedom of Information Act which requires that the FAA provide information to the public by (i) publication in the Federal Register; (ii) providing an opportunity to read and copy records; or (iii) upon a reasonable request. Certain information may be exempted from disclosure; such as, classified information, trade secrets, and confidential commercial or financial information, interagency or intraagency memoranda, or to personal and medical information pertaining to an individual.

3.8 SPECIAL CATEGORIES OF CONTRACTING

3.8.1 AGREEMENTS

3.8.1.1 APPLICABILITY

The provisions of this section are applicable for products, services, and real property interests to the extent authorized by law. The provisions apply to all:

- interagency agreements;
- intraagency agreements;
- property loan agreements;
- memoranda of agreement;
- memoranda of understanding;
- reimbursable agreements;
- agreements with state governments; and
- agreements with local governments and/or public authorities.

3.8.1.2 POLICY

It is the policy of the FAA to use various agreements to acquire products, services, and real property interests whenever it is appropriate and in the best interests of the FAA. These agreements may be made with another federal agency, a modal administration within the Department of Transportation, a state government, or local government. Should another federal agency request products or services through the FAA, the FAA may fulfill those requirements if they are related to the mission of the FAA.

3.8.1.3 GUIDANCE AND PRINCIPLES FOR AGREEMENTS

The agreement should include a description of the products, services required, or real property; the delivery requirements; a fund citation; a payment provision; and the acquisition authority. The requesting and servicing parties should agree to procedures for the resolution of disagreements that may arise under these acquisitions or agreements. All requirements, terms, and conditions of the agreement should be clear and may be placed on any form or document acceptable to both parties in writing.

Agreements may be entered into without public notice whenever it is within the best interest of the FAA. As endorsed by the IPT and approved by the CO, the written rationale documenting the technical, program, or business reasons for contracting with another federal agency, a modal administration within the Department of Transportation, a state government, and local government or public authority is contained in the contract file. The approving official must have warrant authority commensurate with the estimated dollar value of the requirement. As applicable, the documentation should include planning considerations described in the procurement planning section.

3.8.2 SERVICE CONTRACTING

3.8.2.1 APPLICABILITY

This section applies to advisory and assistance contracts and other services, including personal services such as employees support service as provided for in FAA's Personnel Management System. This section does not apply to FAA employees, temporary, part-time or permanent appointed or hired in accordance with the other applicable portions of the FAA Personnel Management System.

3.8.2.2 POLICY

The FAA shall generally rely on the private sector for commercial services (see OMB Circular No. A-76, Policies for Acquiring Commercial or Industrial Products and Services Need by the Government). In no event may a contract be awarded for the performance of an inherently governmental function. Advisory and assistance contracts shall comply with all applicable laws concerning post-employment and other conflict of interest and ethics laws and policies.

3.8.3 FEDERAL SUPPLY SCHEDULE CONTRACTS

3.8.3.1 APPLICABILITY

This section is applicable when FAA awards Federal Supply Schedule contracts for recurring products and services. Additionally, this section addresses requirements to utilize Federal Supply Schedules awarded by GSA, when the FAA is identified in the schedule as a mandatory/non-mandatory user of any supply/service on the schedule.

3.8.3.2 POLICY

The FAA may consider awarding Federal Supply Schedule contracts, or placing orders against Federal Supply Schedules awarded by GSA, for recurring products and services when it is determined to be in the best interest of the FAA.

3.8.4 REQUIRED SOURCES OF PRODUCTS/SERVICES AND USE OF GOVERNMENT SOURCES

3.8.4.1 APPLICABILITY

The policy and guidance are applicable to acquisition for all products or services except for real property, utilities, and construction. The policy and guidance also covers contractor use of Government supply sources.

3.8.4.2 POLICY

The FAA's goal is to obtain products and services from firms that offer the best value to satisfy the mission need. To the extent they offer the best value, COs may use available Government supply sources. The FAA will continue to acquire products and services through the Randolph-Sheppard Vending Facilities Program (20 U.S.C. 107), Javitts-Wagner-O'Day (41 U.S.C. 46), and the Federal Prison Industries, Inc. (18 U.S.C. 4121).

The COs may allow contractors to use Government sources for products or services under cost-reimbursement contracts if it is determined to be in the FAA's interest and the products are available. Contractors with fixed-price FAA contracts that require protection of classified information may acquire security equipment through GSA sources after contracting officer approval.

3.9 RESOLUTION OF PROTESTS AND CONTRACT DISPUTES

3.9.1 APPLICABILITY

Protest and contract disputes guidance and principles outlined herein apply to all FAA Screening Information Requests (SIRs), contract awards, and contracts.

3.9.2 POLICY

Protests concerning FAA SIRs or awards of contracts, and contract disputes arising under or related to FAA contracts, shall be resolved at the agency level through the FAA Dispute Resolution System. Judicial review, where available, will be in accordance with 49 U.S.C. 46110 and shall apply only to final agency decisions. The decision of the FAA shall be considered a final agency decision only after an offeror or contractor has exhausted its administrative remedies for a protest or a contract dispute under the FAA Dispute Resolution System.

3.9.3 GUIDANCE AND PRINCIPLES

3.9.3.1 RESOLUTION OF PROTESTS AND CONTRACT DISPUTES BY THE CONTRACTING OFFICER

3.9.3.1.1 SIRs and Contract Awards

Offerors should first seek informal resolution of any issues concerning potential protests with the CO. COs should make reasonable efforts to promptly and completely resolve concerns or controversies, where possible.

3.9.3.1.2 Contract Disputes

Contractors who have disputes with the FAA related to or arising under a contract should attempt to resolve the matter at the CO level. With the advice of Legal, the CO has full discretion to settle contract disputes, except when the matter involves fraud.

3.9.3.1.2.1 Properly Submitted Contract Disputes

Contract disputes are to be written and, at a minimum, include a statement of facts, adequate supporting data, and a request for relief. Contract disputes must also be signed by a duly authorized representative of the contractor.

3.9.3.1.3 Coordination and Consultation

COs will coordinate their dispute resolution efforts with the FAA Procurement Legal Division or their regional or center legal office. If a protest or contract dispute is filed with the Office of Dispute Resolution, the CO will refer the matter to the FAA Procurement Legal Division or the appropriate regional or center legal office.

3.9.3.1.4 Confidentiality

Settlement discussions and documentation will be protected and confidential, to the extent provided by law.

3.9.3.2 ADMINISTRATIVE RESOLUTION OF PROTESTS AND CONTRACT DISPUTES

3.9.3.2.1 Protests

3.9.3.2.1.1 Filing Protests

If resolution at the CO level is not desired or successful, offerors may file a protest with the Office of Dispute Resolution, for assignment to a Dispute Resolution Officer.

3.9.3.2.1.2 Protest Procedures and Time Limitation of Protests

The Office of Dispute Resolution will promulgate protest procedures and time limitations for protests, which will be described in a provision to be referenced or included in FAA SIRs, or provided upon request.

3.9.3.2.1.3 Nonprotestable Matters

The following matters are not protestable:

- FAA purchases from or through federal, state, and local governments and public authorities;
- grants; and
- cooperative agreements.

3.9.3.2.1.4 Form of Protest

Protests are to be in writing and should contain:

- protester's name, address, telephone, and fax number;
- the SIR or contract number;
- a concise statement of the protest;
- the legal basis for protest;
- a request for remedy; and
- the signature of a duly authorized representative of the protester.

3.9.3.2.1.5 Suspension of Activities Pending Resolution of a Protest

The FAA will continue procurement activities and, where applicable, will permit contractor performance (after award) pending resolution of a protest, unless the FAA determines there is a compelling reason to suspend or delay all or part of the procurement activities.

For protests after award, the FAA Dispute Resolution Officer may recommend suspension of contract performance. A decision to suspend or delay activities will be made in writing by the Administrator or his designee.

3.9.3.2.2 Contract Disputes

3.9.3.2.2.1 Contract Disputes Procedures and Time Limitations

The Office of Dispute Resolution will promulgate procedures and time limitations relevant to contract disputes, which will be described in a provision to be referenced or included in FAA contracts, or provided upon request.

3.9.3.2.2.2 Referring Contract Disputes to the Office of Dispute Resolution

If a contract dispute cannot be resolved at CO level, the matter may be referred, by either party, to the Office of Dispute Resolution for administrative resolution and final agency disposition.

3.9.3.2.2.3 Obligation to Continue Performance

The FAA will require continued performance with respect to disputes arising under a contract, in accordance with the provisions of the contract, pending final decision on a dispute related to that contract.

3.9.3.2.3 Final Disposition of Protests and Contract Disputes

When a protest or contract dispute is filed with the FAA Office of Dispute Resolution, a Dispute Resolution Officer will be assigned to the matter.

When a protest has been received, the Dispute Resolution Officer will inform other interested parties of the protest. At the discretion of the Dispute Resolution Officer, other interested parties may participate in the proceedings.

The Dispute Resolution Officer may use any form of alternative dispute resolution to settle a protest or contract dispute, including, but not limited to, informal communication, mediation, fact-finding, and binding or nonbinding arbitration. Binding arbitration may be employed only if the protester or contractor and the FAA agree to use this method to resolve the merits of the protest or contract dispute.

If binding arbitration is agreed to, the decision of the Dispute Resolution Officer will become a final agency decision, unless the FAA Administrator indicates nonconcurrence with the decision, in writing, within five business days after the date that the decision is issued. If the FAA Administrator nonconcurs with the decision and issues a contrary determination, then that determination becomes the final agency decision concerning the merits of the protest or contract dispute.

If the parties have not agreed to binding arbitration and are unable to reach an agreement on the merits of the protest or contract dispute through alternative dispute resolution, then the Dispute Resolution Officer will issue a recommendation for the final disposition of the matter. The Dispute Resolution Officer will then provide the recommendation to the FAA Administrator, who will make a final agency decision concerning the merits of the protest or contract dispute.

When the Dispute Resolution Officer determines that a protest or contract dispute is frivolous or has no basis in fact or law, a summary decision may be issued as the Dispute Resolution Officer's recommendation to the FAA Administrator. The FAA Administrator will then issue a final agency decision concerning the merits of protest or contract dispute.

3.9.3.2.3.1 Remedies

The Dispute Resolution Officer, or the Administrator, where applicable, has broad discretion to create a remedy for a successful protest or contract dispute.

3.9.3.3 APPEAL OF FINAL DECISIONS

To the extent that a final agency decision is subject to judicial review, such review will be pursuant to 49 U.S.C. 46110. If the parties have agreed to binding arbitration, the decision of the Dispute Resolution Officer (unless overruled by the FAA Administrator) will be final. A final agency decision which is the result of binding arbitration (not overruled by the Administrator) will not be subject to judicial review absent fraud, corruption, misconduct, or manifest disregard for the law.

3.9.4 FAA OFFICE OF DISPUTE RESOLUTION

3.9.4.1 ORGANIZATION

The FAA Office of Dispute Resolution is established as an independent organization within the FAA, and shall report to the FAA Chief Counsel. The office will include an appropriate number of Dispute Resolution Officers, all of whom will be designated by the FAA Chief Counsel.

The office will reside at FAA headquarters. The Headquarters' staff may be augmented by an appropriate number of Dispute Resolution Officers in the regions and centers, as may be deemed necessary by the FAA Chief Counsel.

3.9.4.1.1 FAA Dispute Resolution Officers

Dispute Resolution Officers will be licensed legal professionals, and should be familiar with procurement law and FAA procurement policies. Dispute Resolution Officers will report to the FAA Office of Dispute Resolution.

3.9.4.2 SCOPE OF AUTHORITY AND JURISDICTION

The Office of Dispute Resolution will:

- promulgate rules of procedure;
- have broad discretion to resolve protests and contract disputes;
- utilize alternative dispute resolution techniques to attempt to settle protests and contract disputes; and
- provide fair and impartial decisions or recommendations, supported by the case record and law.

The Office of Dispute Resolution may also:

- recommend changes to the FAA acquisition system based on matters brought before the office.

3.9.4.3 CONFLICTS OF INTEREST

In addition to complying with the general Conflict of Interest provisions contained in Section 3.1.5 of this document, members of the Office of Dispute Resolution will not participate in proceedings involving a protest or contract dispute if that member has

participated in any manner in the screening or award of the contract being protested or disputed at the Office of Dispute Resolution.

3.9.4.4 CONFIDENTIALITY OF PROCEEDINGS

Proceedings of the Office of Dispute Resolution will be protected and confidential to the extent provided by law.

3.10 CONTRACT ADMINISTRATION

3.10.1 APPLICABILITY

The types of activities included in the contract administration phase are:

- issuing contract modifications;
- monitoring contract deliverables;
- assuring that subcontracting policies and requirements are followed; and
- reviewing the contractor's invoices for payment.

The terms and conditions of the contract are used as the guidance in performing these tasks.

3.10.2 SUBCONTRACTING POLICIES

3.10.2.1 APPLICABILITY

This applies to contracts where a prime contractor may be needed to subcontract a portion of the work.

3.10.2.2 POLICY

The CO shall consider requiring "Consent to Subcontracts" when the subcontract work is complex, the dollar value is substantial, or the Government's interest is not adequately protected by competition and the type of prime contract or subcontract.

The CO shall consider conducting a Contractor Purchasing System Review for each contractor whose sales to the Government, using other than simplified purchases procedures, are expected to exceed \$10 million during the next 12 months.

To the maximum extent practicable, the contractor shall incorporate, and require its subcontractors at all tiers to incorporate commercial items or nondevelopmental items as components of items to be supplied under contract.

3.10.3 GOVERNMENT PROPERTY

3.10.3.1 APPLICABILITY

Government property administration guidance and procedures applies to all contracts awarded by the FAA with requirements for providing Government property to contractors, contractors' use and management of Government property, reporting, redistributing, and disposing of contractor inventory. It does not apply to providing property under any statutory leasing authority.

3.10.3.2 POLICY

When contractors possess Government property, the FAA will:

- eliminate, to the maximum practical extent, any competitive advantage that might arise from using such property;
- require contractors to use Government property, to the maximum practical extent, in performing Government contracts;
- permit the property to be used only when authorized;
- charge appropriate rentals when the property is authorized for use on other than a rent-free basis;
- require contractors to be responsible and accountable for, and keep the Government's official records of Government property in their possession or control;
- require contractors to review and provide justification for retaining Government property not currently in use; and
- ensure maximum practical utilization of contractor inventory with the Government.

3.10.4 QUALITY ASSURANCE

3.10.4.1 APPLICABILITY

This section is applicable to all FAA contractual agreements where the FAA will be taking delivery of products and/or services.

3.10.4.2 POLICY

The FAA shall ensure that:

- contracts include inspection, acceptance, and other quality assurance requirements and/or clauses that are determined necessary to protect the FAA's interest;
- products or services tendered by contractors meet contract requirements;
- FAA contract quality assurance is conducted before acceptance (except as otherwise required by the contract) by or under the direction of authorized FAA personnel;
- no contract precludes the FAA from performing inspection of products or services prior to acceptance;
- nonconforming products or services are rejected, except where acceptance of nonconforming products or services is determined to be in the FAA's interest and equitable consideration is received from the contractor; and
- the quality assurance and acceptance services of other Government agencies are used when this will be effective, economical, or otherwise in the FAA's best interest.

3.10.5 PRODUCT IMPROVEMENT/TECHNOLOGY ENHANCEMENT

3.10.5.1 APPLICABILITY

Product Improvement/Technology Enhancement guidance and procedures apply to all FAA procurements, agreements, real property, utilities, and commercial and simplified purchase method.

3.10.5.2 POLICY

The FAA encourages contractors to submit Product Improvement/Technology Enhancement proposals for review at any time during the performance of a contract. The ability to continuously exchange, upgrade, modify, or add new features to equipment and software in response to increased air traffic activity and/or new advancements in technology and methodology is essential. Contractor proposals which are particularly innovative and address savings for the FAA may be given appropriate consideration in the negotiation.

3.10.6 TERMINATION OF CONTRACTS

3.10.6.1 APPLICABILITY

This section applies to all FAA contracts.

3.10.6.2 POLICY

The termination clauses or other contract clauses authorize contracting officers to terminate contracts for convenience, or for default, and to enter into settlement agreements.

The CO shall terminate contracts, whether for default or convenience, when it is in the FAA's interest. The CO may effect a no-cost settlement instead of issuing a termination when (1) it is known that the contractor will accept one, (2) Government property was not furnished, and (3) there are no outstanding payments, debts due the FAA, or other contractor obligations.

When the price of the undelivered balance is less than the cost of effecting a termination, the contract should not normally be terminated for convenience but should be permitted to run to completion.

3.10.7 EXTRAORDINARY CONTRACTUAL ACTIONS

3.10.7.1 APPLICABILITY

This section is applicable when the FAA intends to enter into, amend, or modify contracts in order to facilitate the national defense under the extraordinary emergency authority granted by Public Law 85-804 (referred to in this section as the "Act") as amended, and Executive Order 10789 (referred to in this section as the "Executive Order").

3.10.7.2 POLICY

The FAA may authorize extraordinary contract relief pursuant to Public Law 85-804. Authority to provide such relief is retained by the DOT Secretary for indemnification requests, and by the FAA Administrator or designee for all other requests.

3.11 TRANSPORTATION

3.11.1 APPLICABILITY

Transportation guidance and procedures are applicable to all contracts in applying contract transportation and traffic management considerations in the acquisition of products, acquisition of transportation and transportation-related services, and transportation assistance with traffic management. The making and administration of contracts under which payments are made from Government funds for (1) the transportation of products, (2) transportation-related services, (3) transportation of contractor personnel and their personal belongings, and (4) acquiring transportation or transportation-related services by contract methods other than bills of lading, transportation requests, transportation warrants, and similar transportation forms.

3.11.2 POLICY

The CO shall ensure that instructions to contractors result in the most efficient and economical use of carrier services and equipment through transportation and traffic management administration. The contract office shall obtain traffic management advice and assistance in the consideration of transportation factors required for:

- solicitations and awards;
- contract administration, modification, and termination;
- transportation of property by the Government to and from the contractor; and
- plants.

3.12 REAL PROPERTY

3.12.1 APPLICABILITY

This policy applies to the procurement of real property interests by lease, purchase, condemnation, and otherwise, as well as services related to their procurement, other

related services, and utilities. This policy is the authority in real property procurements within this document.

3.12.2 POLICY

The procurement process is to be conducted following the best commercial business practices, in a fair and equitable manner. Real property interests, related services, and utilities will be acquired by the competitive method whenever practical and reasonable.

3.12.3 GUIDING PRINCIPLES

The process of acquiring real property interests is unique from other types of procurements. The FAA's need for a specific site, location, or other special requirements further complicates the procurement process. The goal is to find the optimum solution to acquire necessary interests to meet FAA mission requirements while fulfilling all mandated requirements. The procurement process requires sound business judgment, and a competent and professional staff having the highest integrity, with authority delegated to the lowest responsible level.

Acquiring real property interests and utilities is a time consuming process; and involvement of the real estate office at the earliest opportunity will expedite the procurement. Such early involvement will allow for needed planning and coordination, and will ensure that all applicable regulations are met and requirements are satisfied in sufficient time to meet the FAA's needs.

3.12.3.1 REQUEST

The procurement process may start with an informal request; however, prior to issuance of a formal solicitation or contract, a signed request from the customer must be received. If costs are involved in the procurement, a certification of funding must be received prior to obligation of any funds for any purpose or award of a contract. One document may serve as both the request and the funding certification.

3.12.3.2 REQUIREMENTS

The requirements should be reviewed to clarify needs; to ensure that special requirements, appropriate delineated area, and availability are considered; and to ensure that FAA mandated requirements are met. Assistance should be provided including alternatives that may fulfill the FAA's needs at a lower cost or in a more efficient manner.

For succeeding contracts, the FAA should assure that the space, land, or service still meets the requiring office's needs. Alterations, upgrading, and expansion/reductions should be considered and included, as appropriate, in the subsequent contract.

Modification to existing contracts for expansion of land, space, services, alterations, or utilities should result in the best value for the FAA.

The real estate CO makes the determination of the appropriate method of procurement to be used to satisfy the requirement—either competitive or single source. A preliminary assessment of potential available sources may be needed to assist in the determination of the procurement method.

3.12.3.3 PROCUREMENT METHOD

Competition is the preferred method of procurement and should be utilized whenever practical and reasonable. Competition is obtained by providing two or more sources an opportunity to express an interest in satisfying the requirements. Competition is appropriate when the requirement is not site or location specific, and reasonable possibility exists that there is more than one provider that can meet the FAA's needs. Advertising is not required. Interest may be expressed either orally or in writing.

The single source method of procurement is appropriate when technical requirements, business practices, or programmatic needs have determined that a specific location, site, or unique need is required to meet the FAA's mission, or when it has been determined that only one source is reasonably available that can meet the requirement.

3.12.3.4 MARKET SURVEY/ADVERTISEMENT

When utilizing the competitive method of procurement, the FAA should conduct a survey to obtain market information and identify potential sources within the delineated area or market. When appropriate, the survey should include on-site visits with the customer to determine if suitable properties are available, or if properties offered in response to an advertisement meet the customer's needs.

Prior to conducting the market survey, the FAA may have developed a draft solicitation, lease, or contract defining the specific requirements. The draft solicitation, lease, or contract can be reviewed with the owner(s) or provider(s) to provide a full understanding of FAA's requirements.

The requirement need not be publicly advertised when the FAA determines that it is not warranted, or reasonable competitive access has been achieved without advertising. Data from a market survey may be used to determine the need for advertising, and to pre-qualify the suitability of real property. If the FAA determines that advertising is required,

the publicizing method most likely to result in receipt of offers appropriate to satisfying the specific requirement should be used.

It is not required to solicit offers from all sources within the delineated area. It is only necessary that offers be solicited from a sufficient number of sources to promote reasonable competitive access to the extent practical and reasonable. Data obtained during the market survey or advertisement can also be used to determine a competitive range. A competitive range consists of offers that are likely to qualify for an award and grouped together by common attributes or specified criteria.

For a single source procurement, a market survey should be conducted to determine or verify the reasonableness of the offer. A sufficient number of data sources should be queried to ensure the validity of the data.

3.12.3.5 EVALUATION OF OFFER(S)

The offer(s) should be reviewed to determine which offer(s) best meets the requirements as indicated in the solicitation, proposed lease, proposed contract, and/or identified as selection factors. Any valid new offer received up to the point of award may be accepted and considered at the discretion of the real estate CO.

For those procurements involving costs, price need not be the primary consideration used for final selection; however, it should be addressed in the evaluation process. As appropriate, the evaluation should include a full analysis of the total cost to the FAA and the total cost of any alternatives considered. The reasonableness of specific costs should be evaluated against data from sources such as market surveys, appraisals, or estimated by the Government. The cost to the FAA should be based on the fair market value of the procurement, and not include any value created by the FAA's enhancements, or intended use. The final selection should result in the best value to the FAA.

3.12.3.6 COMMUNICATION

All items may be communicated and discussed with offerors with the goal of clarifying the FAA's needs and providing a basis for the final contract to assure that all costs involved are fair and reasonable. Communications may continue up to the point of award and may be terminated at any time by the FAA.

During final communications, the offeror can be asked to lower the proposed price/rental to a stated rate that is comparable with the market. At no time during the procurement process, up to actual contract award, should a competitor's offer be disclosed to another competitor.

At any time during the real property procurement process, if a competitive range has been determined, any offer falling within this range may be selected at the discretion of the real

estate CO for direct communication and/or award without further consideration of the evaluation criteria and without having to consider any other offer(s).

3.12.3.7 AWARD

Any necessary changes or additions should be made to the proposed contract based upon the communication and offer. While legal review of lease contracts is not mandatory, review is recommended where deviation from standard clauses is made. Legal review is required on purchases. The Department of Justice rules on condemnation and title requirements must be followed. An appropriate number of proposed contracts should be sent to the property owner or provider for signature and returned for final execution by the FAA.

3.12.3.8 ALTERATIONS AND IMPROVEMENTS

All alterations and/or improvements should be based upon technical requirements, business practices, or programmatic needs as determined by FAA mission. Initial alterations, improvements, related items, and services associated with real property will be considered to have been competitively communicated when included within the scope of the original procurement.

Alterations and improvements to an existing facility can be considered within the scope of the lease and may be communicated with the lessor. In a leased facility, to minimize potential liabilities and restoration costs as well as other claims, the lessor should be considered as the first choice for the accomplishment of alterations. If the FAA accomplishes the alterations, the lessor should be requested to waive any claims for restoration. An FAA estimate may be needed to determine the reasonableness of the owner's offer for accomplishment of alterations and improvements.

3.12.3.9 INSPECTION AND ACCEPTANCE

The real estate CO, or designated representative, should arrange to inspect the real property or service sufficiently in advance of the date needed to ensure that it is acceptable and ready for use. Deficiencies should be corrected before acceptance of the real property, related service, or utility service.

3.12.3.10 DOCUMENTATION

Sufficient documentation should be developed to explain and justify the procurement action taken and business decisions made. These documents should be retained in the applicable procurement file.

3.12.3.11 CONFLICT OF INTEREST

For information on Conflict of Interest, see Section 3.1.5, Conflict of Interest.

3.13 OTHER ADMINISTRATIVE PROCEDURES

3.13.1 ADMINISTRATIVE MATTERS

3.13.1.1 APPLICABILITY

This section is applicable to all awarded contracts. The prescribed policy and guidance relates to the administrative aspects of contract execution, contractor submissions, safeguarding of classified information, and reporting.

3.13.1.2 POLICY

The CO's shall ensure that solicitations and executed contracts contain the appropriate provisions and clauses if access to classified information is required in accordance with Executive Order 10864, entitled, Safeguarding Classified Information Within Industry, as amended by Executive Order 10909. The CO shall also ensure that contractors are made aware of Executive Order 12873, Sections 402 (d) and 504, relating to the submission of paper documents to the Government relating to an acquisition, if possible, printed/copied double-sided on recycled paper. The FAA will also comply with the uniform reporting requirements of the Federal Procurement Data System (FPDS).

SECTION 4—ACQUISITION WORKFORCE LEARNING SYSTEM POLICY AND GUIDANCE

The mission of the Federal Aviation Administration's (FAA's) lifecycle acquisition is to continuously and efficiently modernize a complex command, control, and telecommunications system. This demands that the workforce be technically proficient in a wide array of competencies and be able to function effectively in an empowered work environment. The workforce encompasses individuals, supervisors, and leaders at all levels of the FAA organization who are engaged in lifecycle acquisition activities ranging from major system lifecycle acquisitions through lesser level procurements. The capabilities required of the workforce cover the full spectrum of competencies needed for executing the lifecycle acquisition mission.

The mission-driven, competency-based, goal-oriented methodology of a lifecycle acquisition workforce learning system encourages life-long learning, active knowledge-seeking behavior, and collaborative learning efforts. Cultural and philosophical changes on the part of current individuals and teams are necessary for successful implementation.

The learning system provides a framework to accomplish four key objectives:

- improve the organization's performance by increasing capability in the workforce;
- ensure that "capability" is an attribute of the organization rather than of a few individuals;
- align the motivations of individuals with those of the organization; and
- retain assets (people with extensive skills and capabilities) within the organization.

The learning system design provides the important features described below.

4.1 RESPONSIBILITY

Ultimate responsibility for increasing the level of competence of the workforce resides with the FAA Acquisition Executive (FAE). The FAE holds executives, leaders, and supervisors accountable for identifying and maintaining the currency of mission-related core competencies and for analyzing, measuring, and improving the workforce's capability to perform. Every individual, supervisor, and leader is responsible for

participation in continuous work-related learning. A Learning System Coordinator provides the day-to-day guidance and oversight of the learning system.

4.2 LEADERSHIP

The inherent responsibility of leaders is to create and manage a culture where efficiency, flexibility, quality, and learning are recognized as essential elements of mission accomplishment. Leaders are responsible for hiring and promoting the best qualified people, developing the workforce, recognizing and rewarding people for high performance, and teaching and coaching others. Overall, leaders must build individual and organizational capabilities to ensure long-term acquisition effectiveness.

4.3 RESOURCES

An initial and ongoing investment targeted only for increasing the human and intellectual capital of the lifecycle acquisition workforce is required. A Human and Intellectual Capital Investment Plan, coupled with the Aviation System Capital Investment Plan, is required to meet mission outcomes. Only by investing in the creation of a highly skilled, technically proficient workforce will mission outcomes be accomplished. The Human and Intellectual Capital Investment Plan is requested, budgeted, and funded as an integral part of doing acquisition business. The FAE is required to prepare and submit to the Administrator a Human and Intellectual Capital Investment Plan each year.

4.4 WORKFORCE QUALIFICATIONS

A profile of lifecycle acquisition mission-related core competencies must be identified and maintained. Standards of excellence for these competencies are established and continuously updated. Personnel processes and practices for hiring, promoting, retaining, rewarding, and recognizing workforce performance are based on these standards of excellence.

4.5 ACQUISITION LEADER LEARNING PROGRAM

A high-impact, cutting-edge, executive learning program will be developed. The purpose of this program is to prepare executives to provide leadership in a highly complex, ever-changing technological environment, to become the catalyst for strategic change, and to harness and develop the acquisition workforce's potential to increase organizational and individual productivity. This program has parallel learning tracks. One track addresses the needs that participants have in common. A second track is tailor-made to each individual's learning needs within the framework of the organization's goals and mission.

4.6 MULTI-PATH CAREER MODEL

A lifecycle acquisition workforce multi-path career model will be developed. This model will provide acquisition professionals with a flexible career road map from entry level to senior level positions. It will integrate education and experiences in technical and leadership career tracks, cross-track movements, and learning activities.

4.7 ASSESSMENT

A system of continuous measurement and assessment will be built in to ensure the performance-oriented effectiveness and maturity of the learning system. The results of these assessments are compared to mission accomplishment metrics to provide a comprehensive picture of individual and organizational performance. These results are available to decision makers for strategic planning purposes. The lifecycle acquisition workforce learning system is detailed in Appendix A.

SECTION 5—IMPLEMENTATION

Previous sections have described three components of acquisition reform:

- Improvements in Acquisition Management Policies,
- Changes in Procurement Policies and Practices, and
- Creation of the Acquisition Workforce Learning System.

This section outlines an implementation strategy to accomplish the goals of these three efforts. The Federal Aviation Administration (FAA) expects to begin implementing all of these changes on April 1, 1996 as illustrated in Table 5-1 at the end of this section. Near-term objectives include developing support systems and acquiring experience in managing National Airspace System modernization through empowered teams. Over the longer term, experience and developmental activities for individuals and teams involved in acquiring equipment and systems will produce the fundamental culture change essential for achieving more timely and cost-effective acquisitions at FAA. The capstone of these activities will be an independent assessment of the results in 1999.

Building on the Integrated Product Development System, which was initiated in 1995, a small group of product teams will receive delegations of new acquisition decision authority resulting from procurement and acquisition management reform. To assure the success of these first teams, they will be provided workshops, consultation, and organizational support to resolve any start-up problems. These teams will lead the way in understanding how to be accountable and to exercise their decision making wisely; they will be encouraged to collaborate in finding innovative approaches to replace the rigid prescriptions of past practices. In return, they will develop new terms of accountability for decisions they make. Their experience will provide guiding information for the remaining product teams, which will gradually receive delegations of new acquisition decision authority as they demonstrate readiness for empowerment.

The Workforce Learning System will help Integrated Product Teams (IPTs) develop the required technical, analytical, and interpersonal skills for high quality decision making. In turn, online tools for analysis and documentation of acquisition decisions will enable the teams to take advantage of new procurement practices. A comprehensive system of performance measurement and evaluation will support both the IPTs and the executive leadership team by providing systematic feedback and problem indicators.

5.1 IPTS TO LEAD THE WAY

Three product teams will lead the way in demonstrating the ability of empowered teams to perform major system acquisitions. These programs cover the product lifecycle spanning the phases of major acquisitions from mission needs analysis through fielding, operation, and disposal. The teams will be staffed with the right mix of competencies and the right level of competence. They will receive intensive support from acquisition experts, technical subject consultants, and adult education leaders as well as an internal implementation support team.

Initial product teams will explore innovative ways for reaching high quality decisions about acquisition approaches, source selections, contractor performance monitoring, and test and evaluation of new equipment. At the same time, they will develop processes for setting priorities, scheduling work to be done, and metrics for measuring their own performance with the assistance of the implementation support team. As they pass program milestones, their experience and lessons learned will be compiled and reported to other teams also with the assistance of the implementation support team.

By June 1996, a joint venture with industry and a major university will identify core leadership competencies, set standards of excellence for leaders, and prepare lifecycle acquisition executives to lead the workforce. The required leadership competencies will be attained with the assistance of experts in acquisition disciplines. As necessary, subject matter experts and panels of experts will work with the teams in understanding how to make challenging decisions or resolve complex problems. An internal support team will consult with the initial product teams to troubleshoot acquisition problems, identify new learning strategies, resolve emerging problems, and record significant challenges and accomplishments.

5.2 A LEARNING SYSTEM TO SUPPORT ACQUISITION SKILL DEVELOPMENT

A Life Cycle Acquisition Workforce Learning System will provide guidance on competency development, develop a Human and Intellectual Capital Investment Plan, and administer learning activities and agreements with industry and educational institutions. This system will include an acquisition leader learning program as well as standards and processes for developing the core competencies necessary for empowered teams. In addition, it will develop a timeline for empowering all IPTs to gradually attain full delegations of authority for new acquisition decisions over the system lifecycle.

Over time, this system will assume responsibility for long range human resource analysis and planning. Among its functions will be to identify needed competencies and increase

levels of competence, and to develop plans for how projected staffing level changes will be attained for the organization as a whole and within the teams.

5.3 AUTOMATED TOOLS FOR GOOD ACQUISITION DECISIONS

The purpose of online tools currently under development is to allow acquisition analysts to focus on analysis rather than documentation. The burden of preparing and updating decision-support documents and presentations will be decreased by the availability of an electronic record of how and when decisions were made. Before the end of 1996, these tools will be designed and made available for product teams to use. New analytical models, currently available to only a few teams, will be documented and disseminated to the entire acquisition organization. In addition, such basic data as costs, schedules, staffing, and contract details will be made available electronically to acquisition and leadership teams for analysis and decision support.

5.4 SOUND PROCUREMENT PRACTICES TO ASSURE SUCCESS

An immediate implementation step will be to build the skills and confidence of the procurement workforce so that they can employ the flexibility of the new regulatory environment. Workshops will be conducted on procurement reform for both procurement specialists and their leaders in regions/centers and headquarters. Specialists supporting the initial empowered teams will proceed to implement the new system of minimal external control by developing skill at monitoring and improving their performance internally. As with the empowered teams, the procurement workforce will explore innovative approaches for high quality decision making and internal performance measurement. The critical learning will be in how to monitor team performance for individuals as well as the whole, and how to provide useful feedback for improving performance.

5.5 COMPREHENSIVE MEASUREMENT AND EVALUATION FOR FEEDBACK

A comprehensive system of performance measurements will be established at all levels, from the IPT through senior leadership, to provide systematic feedback about milestone accomplishment, emerging problems, and progress in meeting mission objectives. Teams will develop and use program-specific metrics to monitor their own performance and anticipate problems before they become intractable. Tools such as the culture survey and customer feedback from operators and industry will provide feedback for setting

priorities and initiating corrective actions. The culture survey was first administered in 1995 and will be re-administered annually to track progress in attaining long-term cultural aspects of acquisition reform. Similar instruments will be used to solicit external feedback on critical dimensions of operational user satisfaction with new equipment and related acquisition products. The industry dialogue described below will be the principal means of acquiring industry feedback.

5.6 DIALOGUE WITH INDUSTRY FOR A TRUE PARTNERSHIP

FAA will jointly sponsor periodic conferences with industry through such organizations as the Electronics Industries Association and the American Institute of Aeronautics and Astronautics to facilitate open communications and maximum possible involvement during all steps in the acquisition process. An Internet newsletter will augment these conferences to promote a full and open exchange of ideas and suggestions for continuously improving the timeliness and cost-effectiveness of FAA acquisition programs.

5.7 BUDGET REFORM TO SUSTAIN SUCCESS

In order to attain the maximum flexibility in funding acquisition programs, FAA will continue to explore alternative methods for meeting the objectives of controls exercised by the Office of Management and Budget and the Congress. The acquisition reform team and finance reform team will work together to develop appropriate internal control systems to assure effective and timely acquisition investments of public funds. In keeping with the goal of providing empowered teams the flexibility and authority envisioned in the reforms discussed above, the objective will be to develop direct controls and accountability. To the greatest extent possible, indirect external controls, with their attendant overhead costs and delays, will be replaced by placing both accountability and responsibility in the IPTs.

Table 5-1. Implementation Actions

	<i>Immediate - Effective April 1996</i>	<i>Near-term - by October 1996</i>	<i>Longer Term - by April 1999</i>
Product Team Acquisition Reform Empowerment (there are about 40 product teams)	<ul style="list-style-type: none"> • select three product teams to benefit from reforms • get sufficient competencies to teams developing those products • attend workshop on acquisition management reform changes • coach teams as necessary 	<ul style="list-style-type: none"> • empower a total of 15 teams, choosing those where empowerment will have the greatest immediate payoff 	<ul style="list-style-type: none"> • empower all teams by mid 1997
Procurement System	<ul style="list-style-type: none"> • conduct workshops for procurement leaders and specialists in headquarters and field • procurement leaders coach contracting officers and supporting personnel • insure that industry has access to new procurement regulations through seminars, Internet, publications 	<ul style="list-style-type: none"> • complete training for all procurement personnel 	<ul style="list-style-type: none"> • evaluations and continue to improve new system • annual revisits to procurement system to incorporate lessons learned and new innovations
Acquisition Management System	<ul style="list-style-type: none"> • process designers to advise members from teams with programs that are planning an "investment decision" in next three months, to prepare them for corporate decision making • meet with Joint Resources Council for half-day coaching session in new responsibilities • withhold approval of new financial baselines pending investment reanalysis 	<ul style="list-style-type: none"> • convert all FAA acquisitions to new system, with a review which places each acquisition at its proper point in the new process • complete detail in roles and responsibilities for acquisition management system • complete initial online acquisition tools • mature and implement the program evaluation function at the agency level 	<ul style="list-style-type: none"> • continue to amend system as appropriate from initial experience • continuously expand and update online acquisition tools
Acquisition Workforce Learning System	<ul style="list-style-type: none"> • begin analysis of required core competencies and standards of excellence for teams • orient workforce on new learning system 	<ul style="list-style-type: none"> • complete analysis of current workforce competencies • develop acquisition leader learning program • set up learning support center • establish multi-path career model 	<ul style="list-style-type: none"> • achieve level 4 of the People-Capability Maturity ModelSM learning system model
Acquisition Workforce	<ul style="list-style-type: none"> • begin using personnel reform flexibility in developing a hiring, retaining, motivating, and promoting system • require that all new hires to product teams are in accord with core competencies and standards of excellence 	<ul style="list-style-type: none"> • insure that 15 empowered teams have all required competencies • begin implementing a hiring, retaining, motivating, and promoting system to compliment and support IPTs and the learning system 	<ul style="list-style-type: none"> • monitor progress against human and intellectual capital investment plan • complete human and intellectual capital investment plan by January 1997

FAA ACQUISITION MANAGEMENT SYSTEM APPENDICES

APPENDIX A – THE LIFECYCLE ACQUISITION WORKFORCE LEARNING SYSTEM

BACKGROUND AND PHILOSOPHY

The Federal Aviation Administration (FAA) views acquisition reform as an opportunity to identify and implement proven industry and Government strategies to increase individual and organizational productivity. This opportunity can best be realized by providing a structured, consistent, and continuous learning methodology for developing personal and organizational competence. The learning methodology is considered a linchpin to the successful implementation of the new acquisition reform processes and to maximizing the effectiveness of the FAA's Integrated Product Teams (IPTs). IPTs are established in a cross-functional "teams leading teams" infrastructure (the Integrated Product Development System [IPDS]) where the lowest level teams are empowered and team members share accountability for making well informed, high quality decisions. The learning methodology is vital to systematically determining the types of competencies needed on these teams and developing the levels of competence necessary for high performance in the lifecycle acquisition workforce. The workforce encompasses individuals, supervisors, and leaders at all levels of the FAA organization who are engaged in lifecycle acquisition activities ranging from major system lifecycle acquisitions through minor level procurements. The capabilities required of the workforce cover the full spectrum of competencies needed for executing the lifecycle acquisition mission. While this learning methodology is keyed to major system acquisitions, it will also serve the needs of those involved in less complex procurement activities.

The key premises that guided the development of this methodology are the need to:

- shift from the narrow perspective of training and education to a system of learning capability;
- build a system to identify a profile of the organization's mission related core competencies;
- develop a system to analyze, measure, and improve the workforce's ability to perform;
- maximize the benefits provided in personnel reform to hire, retain, and motivate the lifecycle acquisition workforce; and

- create a system where learning activities are directly related to accomplishing mission outcomes efficiently and effectively.

METHODOLOGY

The lifecycle acquisition workforce learning system (learning system) has three major characteristics—it is: mission driven, competency based, and goal oriented. These characteristics are graphically displayed in Figure A-1.

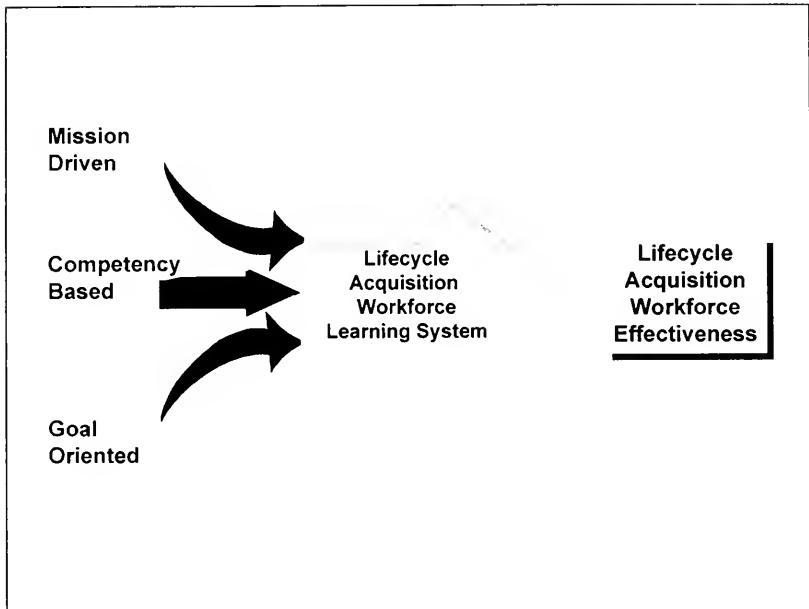


Figure A-1: Learning System Characteristics

First, the learning system is driven by the mission of the acquisition organization. The FAA's mission is to continuously and efficiently modernize a complex command, control, and telecommunications system. The modernization is implemented through IPTs. These teams, which comprise the lifecycle acquisition workforce for major system acquisitions, cross six lines of business, although most team members are drawn from the Research and Acquisition and Air Traffic Service lines.

Second, the learning system is competency based. The workforce core competencies are initially identified and continuously reassessed based on mission requirements, customer needs, and new technology. These competencies provide the structure by which both the capacity and capabilities of the workforce are assessed. Competencies are linked to hiring, promotion, recognition, and rewards. The learning system provides appropriate quantitative and qualitative objectives for growth in the levels of competence of the workforce. It also stimulates the individuals', teams', and leaders' ability to recognize the relationship of their competence to mission outcomes.

Finally, the learning system is goal oriented. The gap between the workforce levels of competence baseline and the standards of excellence identifies individual learning goals. Individual learning goals are directly linked to mission needs. The learning system targets both formal and informal learning opportunities to increase the workforce's level of competence.

The learning system is significantly different from traditional training in that a major portion of the responsibility for learning is transferred to the individual. The traditional training model focuses on solutions designed for groups; this means that training is designed to meet the needs of the broadest population possible, without accounting for individual needs or capabilities. In the learning system model, individuals, often in cooperation with their fellow team members, identify their own knowledge gaps within the context of the organization's goal and mission, and work with supervisors and leaders to identify the most efficient and effective means of addressing their needs. This focus on the needs of the individual within the context of the agency's mission needs requires that a wide variety of learning options be available, including individually designed learning projects, internship opportunities, as well as traditional courses, seminars, and vendor training. By focusing on the individual, the system provides learning events which account for individual needs and the most cost-effective means of ensuring the highest level of competence for all members of the workforce. Figure A-2 represents the learning system.

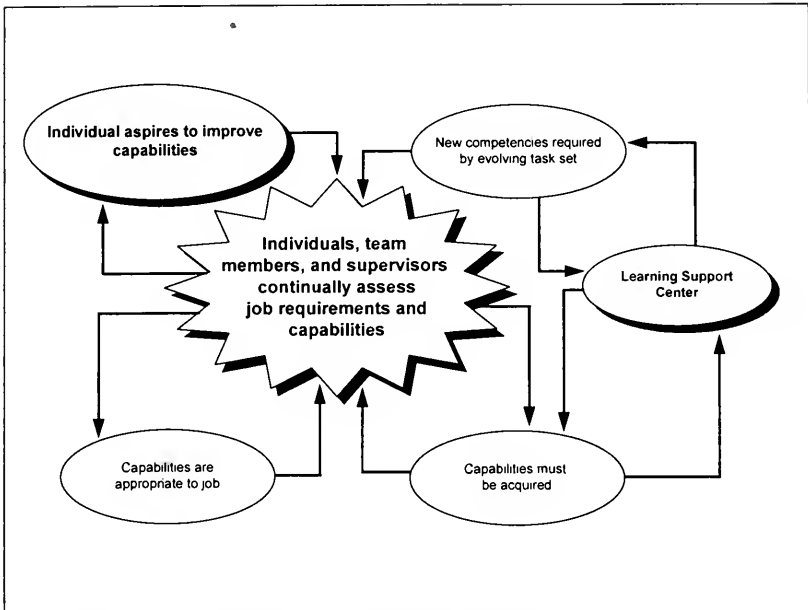


Figure A-2: The Lifecycle Acquisition Workforce Learning System

The learning system utilizes a Learning Support Center concept to assist employees as they seek opportunities to learn. The Center performs several specific functions:

- identification of appropriate learning resources, whether in-house, at universities, or provided through other vendors;
- help in assessment of current competence level gaps; and
- environmental scanning to identify new trends and future needed skills.

The Center is conceived to be a resource as well as a partner with leaders and employees, providing expert knowledge in the *process* of identifying and acquiring current key knowledge and skills.

The new work environment is one in which lack of knowledge is seen as a demand for learning. The task of the individual, the team, and the organization becomes that of defining both current and anticipated learning needs. All members of the workforce view

themselves both as learners and as mentors or coaches. People are recognized and rewarded for what they know and for their ability and willingness to teach others. The primary task of supervisors and leaders is to develop their personnel to the highest levels of competence.

The learning system represents a cultural and philosophical change. It creates an environment that constantly asks what is being learned, and what additional learning must be undertaken to improve performance. This provides a mechanism to alter the culture so that people view themselves as continuous learners, and places learning in parity with task accomplishment.

IMPLEMENTING THE LIFECYCLE ACQUISITION WORKFORCE LEARNING SYSTEM

To ensure implementation success, we have drawn from Carnegie Mellon University's Software Engineering Institute's People - Capability Maturity Model (P-CMMSM) as a framework for a systematic and measurable approach to achieving maximum effectiveness. This model, adapted by the Software Engineering Institute from its landmark Software Capability Maturity ModelSM, is a maturity development framework that describes the key elements of managing and developing the human talent of an organization. (Note: CMM and Capability Maturity Model are service marks of Carnegie Mellon University.)

The P-CMMSM describes mechanisms for moving an organization through five levels of maturity ranging from "initial" through "optimized" (reference explanation of five levels in "The Learning System as Integrated with P-CMMSM" Section).

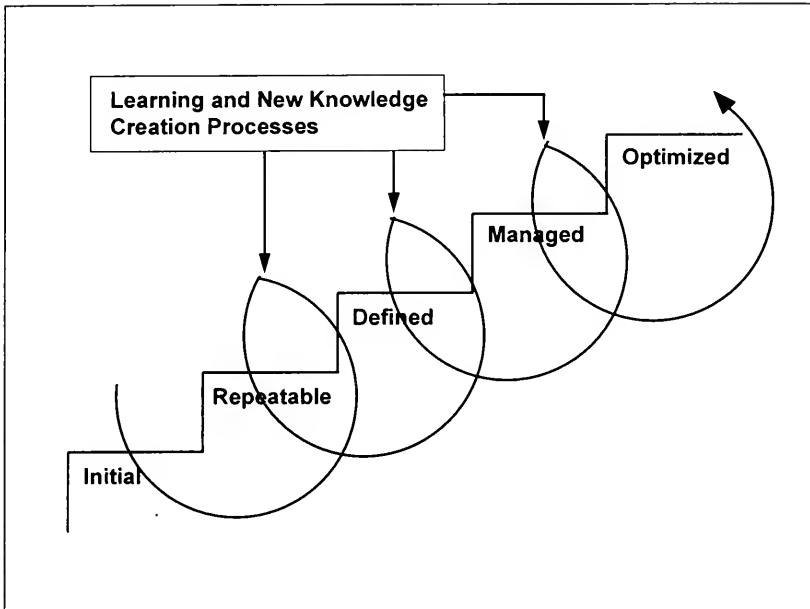


Figure A-3: Learning System/People-Capability Maturity Model Interaction

Figure A-3 is a graphic representation of the learning system/ P-CMMSM interaction. The learning system spiral shows interaction between the two, and represents the continual cycle of assessment, correction, and reassessment as the organization climbs the steps of the P-CMMSM.

THE LEARNING SYSTEM AS INTEGRATED WITH P-CMMSM

The learning system operates on three assumptions which are supported by the P-CMMSM model. They are:

- each employee is a key contributor to the bottom line performance of the organization;
- the capacity of the lifecycle acquisition workforce relies on its learning and working capabilities; and

- the lifecycle acquisition mission will succeed or fail with its human and intellectual capital.

The P-CMMSM based learning system provides a viable framework for implementation. It articulates five levels of maturity an organization must undergo in order to provide an environment in which continuous learning will take place. These five levels—initial, repeatable, defined, managed and optimized—are discussed here as they are reflected in the learning system.

Level 1 - The Initial Stage: Inconsistent environment is provided which leads to poor staffing decisions and no development of employees. No clear evidence is available to improve performance. Similar conditions appear to be present within the FAA's lifecycle acquisition workforce at this time.

Level 2 - The Repeatable Level: A primary objective in achieving repeatable capability is to institutionalize the effective performance of basic people management activities. The learning system makes it possible to develop the capability for level two. The heart of this system is the development of an environment that values, seeks out, and rewards competence. Several accomplishments are key to this development:

- establish an organizational structure to support the learning system;
- develop and implement a mechanism to determine necessary competencies and assess the current level of workforce competence;
- assess the organization's current data gathering and interpretation capabilities; and
- devise systems to evaluate and manage the learning system environment.

The entire process will be overseen by a cross-functional team of leaders, such as the existing Integrated Product Leadership Team. A Learning System Coordinator provides the day-to-day guidance and oversight for the system. This individual will also work closely with leaders and supervisors to implement the learning system. In addition, learning coordinators from the IPTs and regional/center personnel will be identified to support this work.

Level 3 - The Defined Level: Developing specific knowledge and skills that are needed to perform the organization's business activities. Identification of best practices while systematically developing core competencies. Management practices encourage growth in core competencies. An assessment will be undertaken to establish a baseline of competencies and levels of competence in the lifecycle acquisition workforce. The results of this assessment will be utilized to identify initial point data for system evaluation, to determine gaps between present and desired status, and to maximize existing strengths. Figure A-4 is a graphic representation of the competency based

characteristic of the learning system. It includes examples of the competencies that might characterize the FAA learning environment.

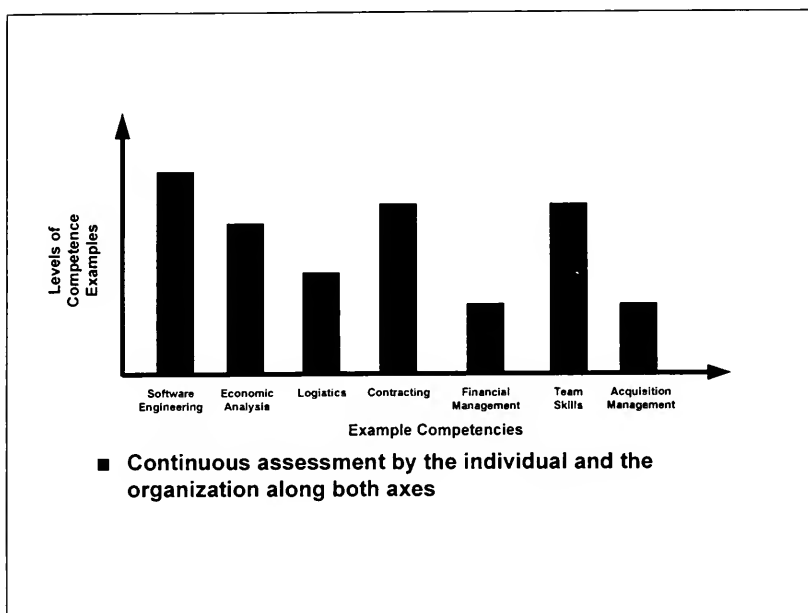


Figure A-4: Competency Based

To meet Level 3 criteria, the following will be accomplished:

- determine the array of needed competencies, and levels of competence, for the workforce, for each discipline;
- survey a sample of the workforce for each discipline, reviewing individual training records, and using 360-degree feedback about organizational learning needs;
- determine the status of training resources, training activities, and other learning activities undertaken by individuals over the past three years;
- determine the human, fiscal, and physical resources necessary to meet the newly established learning objectives;

- consult with the training study team, obtaining manager input, and gathering data on existing training resources including a cost benefit study;
- assess personnel policies and practices to determine if and how they support the lifecycle acquisition workforce;
- establish personnel policies and practices to maximize efforts to reach and maintain excellence;
- review hiring standards processes and policies;
- align promotion, retention, and reward and recognition standards with the practices and processes of the new learning system;
- establish a flexible career road map from entry level to senior level positions;
- develop a process for individual participation in and responsibility for career planning; and
- establish a learning record keeping system for managing the learning activities of the organization.

Level 4 - The Managed Level: Set quantitative objectives for the effectiveness of people management practices, growth in core competencies, and alignment of performance across the individual, team, unit, and organizational levels. These measures establish the quantitative foundation for evaluating trends in the organization's people management capability to be utilized by decision makers. The assessment activities are ongoing and cyclical. Both individual and team effectiveness will be measured in terms of mission outcome. In order to ensure the effectiveness of the learning system, mechanisms will be established to ensure the timely and accurate recording of learning activities at the individual, team, and organizational levels. A key part of this process will be the development of a learning record keeping system. This database will maintain information on competencies possessed, and the levels of competence achieved by every employee. Any learning activities undertaken by the individual or the team will also be recorded. This information will be integrated with the assessment data gathered at level three so that a comprehensive picture of the learning activities, knowledge, and skills of the organization is available to decision makers at all times. These data will serve as the basis for quantitative standards which will be used to establish the need for learning.

Level 5 - The Optimizing Level: Continually improving the organization's people management capability. Organizations are perpetually improving their practices and learning capabilities. The organization task at Level 5 is to actively and continuously improve individual, team, and organization performance. This improvement focus

extends beyond just measuring effectiveness, but actually takes steps to improve the performance.

IMPLEMENTATION STRATEGIES AND ACTIVITIES

Many of the strategies and activities that will be undertaken to move the organization through the levels of the P-CMMSM have already been described in the implementation of the learning system. The following information is provided to plot the strategies and activities along a general time line. At the conclusion of this section, Figure A-5 provides a graphic representation of the organization moving up the P-CMMSM steps over time.

These strategies and associated actions are developed and undertaken in three phases: within the next several months (immediate actions), within the next twelve to eighteen months (intermediate actions), and beyond the next eighteen months (long-term actions). Taken collectively the strategies and actions outlined here are aimed at accomplishing three major objectives for moving the organization through the steps of the P-CMMSM. These objectives are:

- change the organizational culture to one that aggressively and continuously uses learning to improve practice;
- collect and utilize quantitative and qualitative data to define competencies and level of competence required to ensure the highest levels of individual, team, and organizational effectiveness, and to identify deficiencies that would reduce effectiveness if not addressed; and
- identify and apply appropriate learning support resources to enhance the capacity of individuals, teams, all levels of leadership, and the organization as a whole to achieve the highest levels of effectiveness.

PHASE 1 - SHORT TERM

The acquisition workforce will begin to utilize a newly developed procurement process. Preparations for its smooth and effective introduction have been given the highest priority. The strategies for this transition are designed to lay a foundation for movement through the levels of the P-CMMSM while ensuring the immediate capability to effectively engage the new procurement system. The primary strategies are to:

- begin development of infrastructure to support the lifecycle acquisition workforce learning system;

- initiate processes for identifying core competencies and developing standards of excellence for the lifecycle acquisition workforce; and
- begin development of the Human and Intellectual Capital Investment Plan which includes personnel development strategies, funding requirements and sources for the learning system, and timeframe for implementation.

To implement these strategies, the following immediate actions are required.

- identify key competencies and develop standards of excellence needed by the IPTs that will initiate the reformed acquisition management system;
- establish the Learning Support Center concept as described earlier;
- develop short orientation units on the lifecycle acquisition workforce learning system and the requisite leadership and coaching skills to headquarters and regional/center supervisors and leaders; and
- orient all members of the lifecycle acquisition workforce to the new learning system.

PHASE 2 - INTERMEDIATE TERM

Further development of the learning system and continued movement along the P-CMMSM is the focus of the intermediate term effort. The following strategies are designed to address the organizational maturity functions as described in levels three and four of the P-CMMSM. The primary strategies are to:

- ♦ *Establish a baseline of current levels of competence and current training function—*
 - determine the existing competencies and levels of competence for the workforce, using 360 degree feedback assessment; and
 - determine the status of the current training resources, training activities, and learning activities undertaken over the past three years to determine costs and benefits.
- ♦ *Determine what modifications are needed for new learning system—*
 - determine needed competencies and levels of competence, for the workforce;

- determine the human, fiscal, and physical resources necessary to meet newly established learning objectives;
 - establish new hiring, retaining, motivating, and rewarding standards in line with requirements of improved performance; and
 - establish a database structure and an ongoing system to collect and utilize data on the array of competencies and the levels of competence possessed by each member of the acquisitions lifecycle workforce.
- ◆ *Establish an acquisition executive learning program to prepare executives to lead in a highly complex, ever-changing technical environment.*
 - ◆ *Establish a multi-path career model to provide acquisition professionals with a flexible career roadmap from entry to senior level.*

PHASE 3 - LONG TERM

The organizational task at level five of the P-CMMSM is to actively sustain a continuous learning environment and continuously review standards of practice for all individuals, teams, and the organization to ensure the competencies and levels of competence of the workforce remain on the leading edge of professional practice and effectiveness. The following strategies and associated objectives are designed to support this task:

- maintain a work environment in which the acquisition and use of a broader array of competencies and increased levels of competence are the hallmark of effective practice;
- establish new competency and raise the level of excellence based upon findings of the surveys noted above and on feedback from the learning support center;
- ensure that all efforts to improve practice are based upon ongoing assessment of measurable competence; and
- modify continuously new retention and promotion standards in line with requirements of improved practice.

Figure A-5 is a graphic representation of the integration of the steps taken to implement the learning system in time phases that move the organization through the levels of the P-CMMSM.

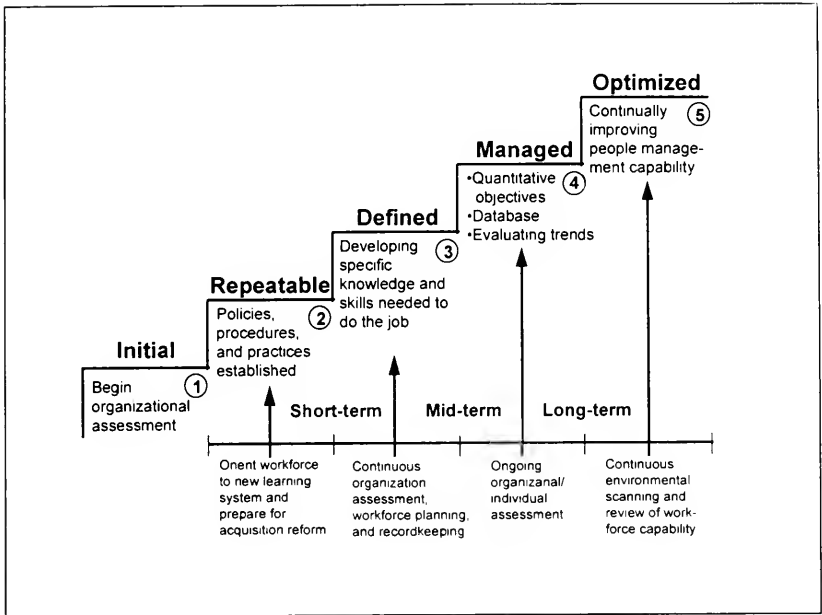


Figure A-5: Integration of P-CMMSM Learning System

APPENDIX B – DECISION MAKER ROLES AND RESPONSIBILITIES

JOINT RESOURCES COUNCIL

- Composed of the Associate Administrators of the seven lines of business, the Chief Financial Officer, and the Chief Counsel;
- Chaired by the Sponsoring Associate Administrator at the mission need decision;
- Chaired by the Federal Aviation Administration Acquisition Executive (FAE) at the Investment Decision;
- Chaired by the FAE at the production decision if the decision is elevated to corporate level;
- Chaired by the Associate Administrator of the operating organization at the in-service decision if the decision is elevated to the corporate level;
- Determines at the investment decision whether additional corporate oversight is needed for an approved acquisition program and the nature of that oversight; and
- Final resolution authority for issues not resolved within the Integrated Product Development System (IPDS) structure.

OPERATING ORGANIZATION ASSOCIATE ADMINISTRATORS

- Approves the Requirements Document;
- Conducts mission analysis within the line of business;
- Chairs the Joint Resources Council (JRC) at the mission need decision for needs related to their line of business;
- Member of the Joint Resources Council; and

- Revalidates the Mission Need Statement at the Investment Decision for needs related to their line of business.

FAA ACQUISITION EXECUTIVE

- Manages acquisition policy within FAA;
- Member of the Joint Resources Council;
- Chairs the Joint Resources Council at the investment decision;
- Approves the Acquisition Program Baseline;
- Approves the Acquisition Strategy Paper; and
- Approves the Integrated Program Plan.

ASSOCIATE ADMINISTRATOR FOR RESEARCH AND ACQUISITIONS

- Serves as the FAE when delegated responsibility by the Administrator;
- Responsible for acquisition program execution within FAA;
- Conducts mission analysis within the Research and Acquisition line of business;
- Member of the Joint Resources Council;
- Establishes and promulgates the schedule for acquisition reviews;
- Chairs acquisition reviews;
- Assigns program execution responsibility at the investment decision; and
- Sponsors agency-wide technology initiatives.

DIRECTOR, OFFICE OF INDEPENDENT OPERATIONAL TEST AND EVALUATION

- Conducts independent operational test and evaluation for programs as directed by the Associate Administrator for Air Traffic Services.

INTEGRATED PRODUCT LEADERSHIP TEAM (IPLT)

- Senior management of cross-functional team that integrates and oversees issues, policies, and processes across all lifecycle acquisition product or service areas including System Engineering and Architecture Integration of the National Airspace System (NAS);
- Prioritizes and allocates resources horizontally across all FAA Integrated Product Teams (IPTs); and
- Resolves issues/problems raised by, or that are outside the empowerment boundaries of the intermediate level Integrated Management Teams (IMTs).

INTEGRATED MANAGEMENT TEAM

- Intermediate level cross-functional team that integrates activity and resolves lifecycle acquisition issues across IPTs within each product/service area;
- Guides, coaches, and supports its product/service area IPTs;
- Resolves issues/problems cross-cutting IPTs within each product/service area; and
- Prioritizes and allocates resources among IPTs across its product/service area.

INTEGRATED PRODUCT TEAM

- Delivers products or services for users or customers within approved Program Baselines as assigned at the investment decision;
- Develops the Integrated Program Plan;
- Develops the Acquisition Strategy Paper;

- Assists in development of the Requirements Document and alternative solutions to mission need during Investment Analysis; and
- Retains responsibility for services and products throughout their lifecycle.

CONTRACTING OFFICER (CO)

The CO's responsibilities and duties are to:

- ensure, as applicable, conflict of interest documentation is obtained from all IPT members, and determine, with legal counsel review, if any conflicts of interests exist;
- ensure that IPT members are briefed on the sensitivities of the source selection process, the prohibition against unauthorized disclosure of information (including their responsibility to safeguard proposals and any documentation related to the IPT's proceedings), and the requirements pertaining to conflicts of interest;
- coordinate communications with industry;
- participate during the screening, selection, and debriefing phases of source selection to ensure fair treatment of all offerors;
- issue, as required, solicitation amendments and letters, Screening Information Requests (SIRs), and SIR amendments to industry;
- control all written documentation issued to industry;
- ensure that the contract is signed by an official with the authority to bind the company;
- with guidance from legal counsel, assure that all contractual documents are in compliance with applicable laws and regulations;
- serve as the Source Selection Official (SSO) if the procurement is not subject to the Joint Resources Council (JRC) process or is specifically delegated by the IPT lead; and
- execute, administer, and terminate contracts, and make related determinations and decisions that are contractually binding.

SOURCE SELECTION OFFICIAL

The SSO has full responsibility and authority to select the source(s) for award. The SSO's responsibilities are to:

- approve the evaluation plan, if required;
- ensure that the IPT is properly constituted and includes all necessary disciplines;
and
- make all screening decisions and selection decisions.

APPENDIX C – ACQUISITION PLANNING AND CONTROL DOCUMENTS

This appendix contains the purpose, description, approval authority, and content for the six mandatory acquisition planning and control documents in the Federal Aviation Association (FAA) lifecycle acquisition management system. There documents are:

1. Mission Need Statement;
2. Requirements Document;
3. Investment Analysis Report;
4. Acquisition Program Baseline;
5. Acquisition Strategy Paper; and
6. Integrated Program Plan.

These summaries are preliminary and subject to revision. In addition, the content of program-specific planning documents will vary by acquisition category. For example, the content of an Integrated Program Plan for a facilities program will be different from the content for a systems or services program.

MISSION NEED STATEMENT

PURPOSE

The Mission Need Statement is the approval document at the mission need decision. It is a summary document that describes the capability shortfall or technological opportunity, and presents the primary decision factors the Joint Resources Council (JRC) should evaluate at the mission need decision. Approval authorizes entry into investment analysis to determine the best overall solution to mission need.

DESCRIPTION

The Mission Need Statement must *justify* in rigorous analytical terms the need for agency action to resolve a shortfall in the agency's ability to provide the services needed by its users or customers or to explore a technological opportunity for performing agency missions more efficiently or effectively. The Line of Business with the need or

opportunity prepares the Mission Need Statement for submission to the Joint Resources Council at the mission need decision. The Mission Need Statement must be derived from rigorous mission analysis (i.e., continuous analysis of current and forecasted mission capabilities in relationship to projected demand for services) and must contain sufficient quantitative information to establish and justify the need. It should be "need-oriented" and should *not* seek to justify a specific solution or acquisition program. The Mission Need Statement must be updated when there is significant change to the mission. It must be revalidated at subsequent decision points.

NOTE: The Mission Need Statement is a summary document that describes the operational problem and presents the major decision factors that the Joint Resources Council should evaluate in considering the need. Detailed quantitative and analytical information should be included as attachments.

APPROVAL

The Joint Resources Council approves the Mission Need Statement. The signature authority is the Associate Administrator of the sponsoring organization with the need.

CONTENTS

The Mission Need Statement should contain the following information:

Signature Page. Title of the Mission Need Statement; Mission Needs Statement number; originator name, organization, phone and fax numbers; sponsor organization, focal point, phone and fax numbers; signature of approving official and date.

Mission Area. Describe briefly the FAA mission area (e.g., advisory, flight assistance and monitoring, capacity and demand management) with the need or the opportunity for technological improvement.

Needed Capability. Describe the operational or functional capability needed to resolve the capability shortfall or explore a technological opportunity. Describe needed capability in terms of functions to be performed or services to be provided. *Never describe needed capability in terms of a system or solution.*

Cite any Congressional, administrator, or other high-level direction, such as international agreements, to support the mission need. Cite any statutory or regulatory authority for the need.

Current Capability. Describe *quantitatively* the capability of current systems, facilities, equipment, or other assets now deployed to meet the mission need.

Capability Shortfall. Describe and *quantify* the capability shortfall, as derived from operational and performance analyses, or describe the technological opportunity in terms of improved productivity, operational effectiveness, or efficiency. Provide validated

growth projections based on operational analysis, as appropriate. Summarize the limitations of current facilities, equipment, or services to meet projected needs. Provide specific operational and performance analyses, quantitative projections, supporting data, or other analyses as attachments.

Impact. Describe the impact on the aviation community and the FAA's ability to perform mission responsibilities if the capability shortfall is not resolved. Or describe the impact of a lost technological opportunity in terms of costs to the FAA or the aviation industry. Categories of impact include safety, capacity, operations, maintenance, cost, and other factors as appropriate.

Timeframe. Identify when the capability shortfall will seriously affect the agency's ability to perform its mission if no action is taken. Establish when the agency must take action to avoid the adverse impact on services that will result.

Criticality. Define the priority of this mission need relative to other agency needs. Characterize the criticality of this mission need from the perspective of the aviation community.

LRRAP Resource Estimate. Provide a rough estimate of the resources that will be needed to resolve the capability shortfall or achieve the technological capability.

REQUIREMENTS DOCUMENT

PURPOSE

The Requirements Document establishes the performance baseline and operational framework for an acquisition program. Critical performance parameters are incorporated into the Acquisition Program Baseline, and used as a basis for developmental and operational testing.

DESCRIPTION

The Requirements Document defines essential top-level performance or capability the acquisition community must provide to the user community. It is the primary force

driving every acquisition program and must capture only essential customer needs. It must *not* cause the expenditure of resources in pursuit of costly features that are not true requirements. The initial Requirements Document is developed early in the investment analysis phase by the sponsoring organization working in partnership with the Investment Analysis Staff. It serves as a basis for a market search to identify commercially available solutions or the best overall approach for satisfying mission need. It is critical that the Requirements Document remain flexible during investment analysis to take advantage of commercial products, lower cost alternatives, and the potential to get new capability into operational use quickly. The Requirements Document is *baselined* at the investment decision after careful balancing of capability, cost, schedule, risk, and affordability. *After baselining, requirements may be changed only when associated cost and schedule impacts are approved by the JRC and*

The Requirements Document

Contains

***Top-Level Core
Requirements***

IT IS NOT

***a performance or design
specification***

included in agency plans and budgets.

APPROVAL

The Associate Administrator of the organization with the mission need approves the Requirements Document at the investment decision. The same person also approves any updates or revisions to the Requirements Document once any associated cost and schedule Acquisition Program Baseline changes are approved by the JRC.

CONTENT

(varies by acquisition category - TBD)

INVESTMENT ANALYSIS REPORT

PURPOSE

The Investment Analysis Report is the primary decision document at the investment decision. It contains the information needed by the JRC for a sound and informed selection of the best overall solution to the capability shortfall or technological opportunity identified in the Mission Need Statement.

DESCRIPTION

The Investment Analysis Report is prepared during the investment analysis phase by the Investment Analysis Staff. It is developed in partnership with the sponsoring organization having the need and the Integrated Product Team(s) IPT(s) that will implement the solution selected by the JRC. The Investment Analysis Report must address all reasonable alternative solutions impartially. A preferred solution may be recommended, but the intent of the report is to quantify and display the relative strengths and weakness, advantages and disadvantages of each alternative so the JRC can make an informed selection. Evaluation criteria will vary according to the nature of the need and potential solutions, but typically should include such factors as acquisition and lifecycle cost, schedule, performance, benefits, supportability, affordability, infrastructure requirements, and risk. The Investment Analysis Report shall include both a lifecycle cost estimate and cost/benefit ranking for each alternative.

NOTE: The Investment Analysis Report is used only for the investment decision and will not be updated. However, the performance, cost, schedule, and benefit parameters of the alternative selected for implementation will be transferred to the Acquisition Program Baseline for the approved program, and will constitute the framework within which the program can be executed.

APPROVAL

The Director of the Investment Analysis Staff approves and submits the Investment Analysis Report to the JRC after obtaining concurrence signatures from the Service Director of the organization with the mission need and the IPT Director(s) that represent each solution. If these Directors cannot agree on the content and recommendations of the report, they may submit their concerns and alternative recommendations to the JRC in conjunction with the report.

CONTENT

The Investment Analysis Report should be submitted as an Executive Summary with supporting analysis and data as attachments. The following is the content of the Executive Summary.

Signature Page. Include the title "Investment Analysis Report," name of the mission need, signature of the preparing organization, and signatures of the approving organizations.

Mission Need and Requirement. Summarize briefly the mission need and critical requirements addressed by the Investment Analysis. These needs and requirements are expressed fully in the Mission Need Statement and Requirements Document. They are the basis for assessing the feasibility and attractiveness of each alternative, and for analyzing the relationships and weighting among evaluation factors.

Assumptions, Constraints, and Conditions. Identify and describe briefly all important assumptions, constraints, and conditions having major influence on the analysis and its conclusions. The following must be included as a minimum: the assumed remaining service life of currently fielded capability, the assumed operational date for any new capability, the assumed service life of any new capability, and the operational framework within which any new capability must function.

Evaluation Matrix. Provide a value or ranking of each evaluation factor for each alternative. The evaluation matrix should typically include, at a minimum, the acquisition cost, lifecycle cost, time to field an initial operational capability, benefits, risk, ability to upgrade (e.g., open architecture, modular design), affordability, and performance ranking for each alternative. Explain the content of this matrix to the degree necessary for the JRC to understand the relative rankings and make an informed selection.

Recommendation. Identify the recommended alternative, if applicable, and explain the rationale for the recommendation.

Alternatives Analyzed. List and describe briefly all material and non-material alternatives that were analyzed. These alternatives will vary widely according to the need, but it is imperative that non-material and non-developmental solutions be investigated as a *first* priority in all cases. A developmental alternative should be pursued only when non-developmental items (NDIs) and non-material solutions are determined to be infeasible or when a technological opportunity offers great potential for improvements in efficiency and effectiveness.

Evaluation Criteria. Identify the evaluation criteria and their relative weighting used in evaluating the relative attractiveness of each alternative. Lifecycle cost to the FAA and the aviation industry *must* be used as an evaluation factor in every Investment Analysis.

NDI Feasibility. Discuss why the mission need can or cannot be satisfied by an NDI or market-available solution. If NDI is not considered feasible, explain the shortfalls between the required capability and the NDI capability together with an impact statement of deleting these shortfalls from the Requirements Document.

Affordability. Identify the funding source for any new program. If funding is not available in the Long Range Resource Allocation Plan (LRRAP) and other agency plans and budgets, identify funding offsets in other approved programs sufficient to make up the shortfall. State the relative priority of the recommended program relative to programs identified for offsets.

MANDATORY ATTACHMENTS

1. **Analytical Summary.** For each alternative, explain the score or ranking given to each evaluation factor.
2. **Acquisition Program Baseline.** Provide the performance, cost, schedule, and benefit baseline for each alternative considered likely to be selected for implementation by the JRC, as derived from the investment analysis.

ACQUISITION PROGRAM BASELINE

PURPOSE

The Acquisition Program Baseline establishes the performance, cost, schedule, and benefits framework within which an acquisition program must be implemented.

DESCRIPTION

The Acquisition Program Baseline establishes the *critical* performance parameters and benefits that a program must achieve, and sets boundaries for cost and schedule within which the program is authorized to proceed. The program baseline is established at the investment decision. The basis for the program baseline is the cost, schedule, and benefits in the Investment Analysis Report for the alternative selected for implementation and the *must have* performance parameters in the Requirements Document.

The integrated product team must submit a baseline change request to the JRC whenever an element of the Acquisition Program Baseline is anticipated to be breached or whenever a Congressional action impacts cost, schedule, or performance. A change in sponsor/user requirements, new technological opportunity, or unexpected program development may also force a baseline change request. The appropriate financial baseline change notice, schedule change notice, and NAS change proposal must be submitted with

the baseline change request. The JRC must act on a baseline change request within 30 days of it.

No funding may be committed or obligated that would exceed the program cost baseline until the necessary increase is approved by the JRC and included within agency plans and budgets.

APPROVAL

The FAA acquisition executive approves the Acquisition Program Baseline at the investment decision. Changes to the baseline are approved by the JRC chaired by the FAA acquisition executive.

CONTENTS

(TBD - varies by acquisition)

Approval Page: Include the title "Acquisition Program Baseline," program name, acquisition phase, submitting authority signature and date, concurrence signatures and dates, approval signatures and dates.

Performance Baseline: List the critical performance parameters (i.e., statements of operational effectiveness and suitability) with *quantified* thresholds that must be achieved to satisfy mission need.

Cost Baseline: Identify logical cost categories (e.g., development, production, installation, and checkout) and enter the cost ceiling for each in *then year* dollars. The total cost of the program shall not exceed the values approved at the Investment decision and included in approved agency planning documents (LRRAP, Capital Investment Plan, Research, Engineering, and Development Plan). Lifecycle sustainment costs *must* be included.

Schedule Baseline: List critical program events (e.g., key tests, evaluations, and milestones including In-Service date) and related start and completion dates.

Benefits Baseline: List the key benefits the program is intended to achieve as per the cost/benefits analysis in the Investment Report and the values expected to be achieved for each.

ACQUISITION STRATEGY PAPER

PURPOSE

The Acquisition Strategy Paper (ASP) defines the overall strategy by which the acquisition program will be executed during the solution implementation phase.

DESCRIPTION

The Acquisition Strategy Paper ASP is formal agreement between the acquisition executive and the integrated product team on how the program will be implemented. It is a high-level strategic overview of the technical, management, and contracting approach that will be used to execute the program within constraints of the Acquisition Program Baseline. The ASP covers such key areas as acquisition strategy, contracting strategy, resource allocation and schedule, program and risk management, maintenance approach and lifecycle support, testing strategy, and configuration management, as appropriate. The integrated product team shall submit the initial Acquisition Strategy Paper to the FAA acquisition executive within one month of program initiation at the investment decision. The ASP must be updated by the IPT and approved by the FAA acquisition executive whenever a significant change in the strategy is required. The Acquisition Strategy Paper is a summary document that typically should not exceed 10 pages.

NOTE: The Acquisition Strategy sets the framework for the Integrated Program Plan and must be approved before release of any formal solicitation for implementation.

APPROVAL

The FAA acquisition executive (FAE) approves the acquisition strategy. The FAE also approves any update or revision.

CONTENT

(varies by acquisition category - sample is for Facilities)

Signature Page. Include the title "Acquisition Strategy Paper," signature and date for preparing organization, signature and date for concurring organizations (e.g., Administrator for Air Traffic, Administrator for Airway Facilities), signature and date for the approving authority (FAA Acquisition Executive)

Statement of Mission Need. Brief one paragraph synopsis of mission need.

Program Summary. Brief program description; program funding breakout by fiscal year, major contracts, primary activities, and functional disciplines (e.g., logistics, testing), and program schedule for primary milestones and events.

Acquisition. Brief description of the overall acquisition strategy (e.g., upgrade existing facilities, construct new facilities, modular construction). Identify the next corporate decision point, if applicable. Identify any planned acquisition streamlining initiatives.

Contracting. Describe the contracting strategy that will be executed (e.g., competition, sole source, lease, purchase). Briefly describe planned source selection procedures (e.g., invitation for bid, Request for Proposal, Screening Information Request). Identify the type(s) of contract(s) that will be awarded (e.g., cost plus incentive fee, fixed price, cost plus award fee). Identify source selection procedures to be used and source selection official.

Management. Describe the management structure and responsibilities for the overall program including site acquisition, facility construction, and any systems/equipment that must be acquired and integrated into the facility. Describe the management strategy for contracted efforts including the use of formal and informal reviews. Identify whether cost, schedule, or performance monitoring will be used on contracted efforts.

Risk Management. Identify primary cost, schedule, and performance risks and describe what risk-management techniques will be used to mitigate risk. Refer to FAA-P-1810.

Human Factors. Describe how human factors will be considered during architectural and engineering design to achieve effective human performance during operations, maintenance, and support. Refer to MIL-E-46855 and MIL-STD-1472D.

Testing. Describe the testing strategy that will be used to integrate systems and equipment into the facility and certify for operational use.

Environmental Considerations. Describe how environmental considerations will be managed as per Order 1051.1, Policies and Procedures for Considering Environmental Impact. Indicate whether an Environmental Impact Statement or a Finding of No Significant Impact is required.

Security Considerations. Describe how security requirements will be addressed during the architectural and engineering design stage as per Order 1650.7B. Order 1600.46 prescribes self-protection planning requirements for new facilities.

INTEGRATED PROGRAM PLAN

PURPOSE

The Integrated Program Plan is the key planning document for all aspects of program implementation. It documents the detailed actions required to implement the overall program strategy in the approved Acquisition Strategy Paper. The Integrated Program Plan replaces and consolidates planning previously documented in the work breakdown structure, program management plan, program implementation plan, NAS integrated logistics support plan, test and evaluation master plan, risk management plan, human factors plan, and acquisition plan.

DESCRIPTION

The Integrated Program Plan translates strategies in the Acquisition Strategy Paper into a consistent set of detailed actions and responsibilities that will achieve successful program implementation. It weaves together all essential elements of program implementation including allocation of funding, scheduling, roles and responsibilities, controls and review, contracting, maintenance, logistics support, test and evaluation, configuration management, and human factors, as appropriate. The Integrated Product Team develops and reviews the Integrated Program Plan. Individual IPT members are responsible for sound planning within their functional discipline. *Submission of the Integrated Program Plan for approval shall signify that all issues among IPT members and their associated organizations have been resolved.* Do not include planning information called for in this instruction that is not needed for program implementation. Simply explain why it does not apply.

NOTE: *The Integrated Program Plan must be approved before release of any formal solicitation, transfer of funds, or commitment to any interagency agreement for program implementation. Draft solicitations may be released for industry review and comment before approval of the IPP.*

APPROVAL

The FAA acquisition executive approves the Integrated Program Plan early in the solution implementation phase. The integrated product team may elect to have sections related to specific functional disciplines approved by the responsible FAA organization (e.g., logistics, test, and evaluation).

CONTENT

(content varies by acquisition category - TBD)

APPENDIX D — BUSINESS DECLARATION

1. *Name of Firm:* _____
2. *Address of Firm:* _____
3. *Telephone Number of Firm:* _____
4. (a) *Name of Person Making Declaration:* _____
 (b) *Telephone Number of Person Making Declaration:* _____
 (c) *Position Held In The Company:* _____
5. *Controlling Interest In Company (X All Appropriate Boxes)*
 () *Black American* () *Hispanic American* () *Native American*
 () *Asian American* () *Female-Non Minority* () *Male-Non Minority*
 () *Female* () *Male* () *8(a) Certified (Certification Letter Attached)*
6. *Is the person identified in Number 5 above, responsible for day-to-day management and policy decision making, including but not limited to financial and management decisions?*
 () *Yes* () *No* *If No, provide the name and telephone number of the person who has this authority.*

7. *Nature of Business—Specify major services/products:* _____

8. (a) *Years the firm has been in business* _____ (b) *No. of Employees* _____
9. *Type of Ownership:* () *Sole Ownership* () *Partnership* () *Other/Explain Below*

10. *Gross receipts of the firm for the last three years: Year Ending* _____ *Gross Receipts \$* _____
 _____ *Year Ending* _____ *Gross Receipts \$* _____ *Year Ending* _____ *Gross Receipts \$* _____
11. *Is the firm a small business? Yes* _____ *No* _____

I DECLARE THAT THE FOREGOING STATEMENTS CONCERNING _____
(Name of Business) ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE,
INFORMATION, AND BELIEF. I AM AWARE THAT I AM SUBJECT TO CRIMINAL
PROSECUTION UNDER THE PROVISIONS OF 18 U.S.C. 1001.

Signature

Date

Name/Title _____

APPENDIX E – DEFINITIONS

Acquisition planning is the process by which the efforts of all disciplines responsible for an acquisition area are coordinated and integrated through a comprehensive plan for meeting the agency's need in a timely manner, at a reasonable cost.

Acquisition strategy is the overall concept and strategy for the acquisition portion of a project. The strategy considers how the acquisition aspects of the project interact with others, such as operational, resources, projections of future needs, and acts to make acquisition support the overall goal of the project.

Acquisition strategy meeting is a meeting of organizations with vested interests in an acquisition. The purpose of this meeting is to reach a consensus on the planned course of the acquisition and to obtain the necessary approvals to proceed.

Acquisition workforce represents a wide array of disciplines from specialized areas brought together to have overall responsibility for the lifecycle of the acquisition system. Skills include operational analysis, contracting, testing, logistics, cost estimating, budgeting, program planning, operational research, and risk analysis, and also includes engineering and technical expertise in product lines.

Affiliate business is a business that controls or has the power to control another business, or a third party that controls or has the power to control another business (contractual relationships must be considered).

Affordability assessment, part of the Alternatives Analysis, establishes the cost and priority of a program in relationship to all other programs competing for resources in the same years, for all appropriations, and for identifying offsets, as required.

Agreement with a state government, local government, and/or public authority is a written agreement between the Federal Aviation Administration (FAA) and a state or local government or public authority where the FAA agrees to receive from, or exchange supplies or services, with the other party.

Agreement with other public or private parties is a written agreement between the FAA and other public or private parties where the FAA agrees to receive from, or exchange supplies or services, with the other party.

Alternative Dispute Resolution (ADR), as used herein, means any procedure or combination of procedures voluntarily used to resolve issues in controversy without the need to resort to litigation. These procedures may include, but are not limited to, assisted settlement negotiations, conciliation, facilitation, mediation, fact-finding, mini-trials, and arbitration. These procedures may involve the use of neutrals.

Alternatives analysis, as used in Phase two of the lifecycle acquisition process, involves three main activities: development of operational requirements, identification and analysis of viable alternatives to meet the mission need, and an affordability assessment. Its purpose is to determine the most advantageous and reasonable solution in response to a candidate's offer to provide products or services.

Alternatives analysis report, part of the alternative analysis, is a report compiling comprehensive, quantitative data developed for each proposed alternative.

Annual funding is the current Congressional practice of limiting authorizations and appropriations to one fiscal year at a time. The term should not be confused with two-year or three-year funds which permit the Executive Branch more than one year to obligate the funds.

Architect-engineer services are: (1) professional services of an architectural or engineering nature, as defined by State law, if applicable, which are required to be performed or approved by a person licensed, registered, or certified to provide such services; (2) professional services of an architectural or engineering nature performed by contract that are associated with research, planning, development, design, construction, alteration, or repair of real property; and (3) such other professional services of an architectural or engineering nature, or incidental services, which members of the architectural and engineering professions (and individuals in their employ) may logically or justifiably perform, including studies, investigations, surveying and mapping, tests, evaluations, consultations, comprehensive planning, program management, conceptual designs, plans and specifications, value engineering, construction phase services, soils engineering, drawing reviews, preparation of operating and maintenance manuals, and other related services.

Auctioning techniques include indicating to an offeror a cost or price that it must meet to obtain further considerations; advising an offeror of its price standing relative to another offeror; and otherwise furnishing information about other offerors' prices.

Best value is the solution that is the most advantageous to the FAA, based on the evaluation of price and other factors specified by the FAA. This approach provides the opportunity for trade offs between price and other specified factors, and does not require

that an award be made to either the offeror submitting the highest rated technical solution, or to the offeror submitting the lowest cost/price, although the ultimate award decision may be to either of these offerors.

Cancellation is the cancellation of the total requirements of all remaining program years of a multi-year contract. Cancellation results when the Contracting Officer (CO) notifies the contractor of nonavailability of funds for contract performance for any subsequent program year, or fails to notify the contractor that funds are available for performance of the succeeding program year requirement.

Cancellation ceiling is the maximum amount that the FAA will pay the contractor which the contractor would have recovered as a part of the unit price, had the contract been completed. The amount which is actually paid to the contractor upon settlement for unrecovered costs (which can only be equal to or less than the ceiling) is referred to as the cancellation charge. This ceiling generally includes only nonrecurring costs.

Checks and balances is a system of program boundaries and clear monitoring techniques that identify problems before they become unmanageable.

Claim as used herein, means a written demand or assertion by one of the contracting parties seeking, as a matter of right, payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to the contract. A claim arising under a contract, unlike a claim relating to that contract, is a claim that can be resolved under a contract clause that provides for the relief sought by the claimant. However, a voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim. The submission may be converted to a claim, by written notice to the CO, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.

Commercial item can mean any of the following:

(A) Any item, other than real property, that is of a type customarily used by the general public or by nongovernmental entities for purposes other than governmental purposes and that has been sold, leased, licensed to the general public; or has been offered for sale, lease, or license to the general public.

(B) Any item that evolved from an item described in paragraph (A) through advances in technology or performance and that is not yet available in the commercial marketplace, but will be available in the commercial marketplace in time to satisfy the delivery requirements under a Government solicitation.

(C) Any item that would satisfy a criterion expressed in paragraphs (A) (B) of this definition, but for-(i) modifications of a type customarily available in the commercial

marketplace; or (ii) modifications of a type not customarily available in the commercial marketplace made to meet Federal Government requirements.

“Minor” modifications means modifications that do not significantly alter the nongovernmental function or essential physical characteristics of an item or component or change the purpose of a process. Factors to be considered in determine whether a modification is minor include the value and size of the modification and comparative value and size of the final product. Dollar values and percentages may be used as guideposts, but are not conclusive evidence that a modification is minor;

(D) Any combination of items meeting the requirements of paragraphs (A), (B), (C), or (E) of this definition that are of a type customarily combined and sold in combination to the general public.

(E) Installation services, maintenance services, repair services, training services, and other services if such services are procured for support of an item referred to in paragraph (A), (B), (C), or (D) of this definition, and if the source of such services--(i) offers such services to the general public and the Federal Government contemporaneously and under similar terms and conditions; and (ii) offers to use the same work force for providing the Federal Government with such services as the source uses for providing such services to the general public.

(F) Services of a type offered and sold competitively in substantial quantities in the commercial marketplace based on established catalog or market prices for specific tasks performed under standards commercial terms and conditions. This does not include services that are sold based on hourly rates without an established catalog or market price for specific service performed.

(G) Any item, combination of items, or service referred to in paragraphs (A) through (F), notwithstanding the fact that the item, combination of items, or service is transferred between or among separate divisions, subsidiaries, or affiliates of a contract; or

(H) A nondevelopmental item, if the procuring agency determines the item was developed exclusively at private expense and sold in substantial quantities, on a competitive basis, to multiple state and local governments.

The term nondevelopmental item means:

(A) Any previously developed item of supply used exclusively for government purposes by a Federal agency, a state or local government with which the United States has a mutual defense cooperation agreement;

(B) Any item described in paragraph (A) of this definition that requires only minor modification or modifications of a type customarily available in the commercial marketplace in order to meet the requirements of the procuring department or agency; or

(C) Any item of supply being produced that does not meet the requirements of paragraph (A) or (B) solely because the item is not yet in use.

The term component means any item supplied to the Federal Government as part of an end item or of another component.

The term commercial component means any component that is a commercial item.

Commercially available includes supplies, commodities, equipment, material, or services available in existing commercial markets in which sources compete primarily on the basis of established catalog/market prices or for which specific costs/prices established within the industry have been determined to be fair and reasonable.

Commonality is the use of identical parts, components, subsystems or systems to achieve economies in development and manufacture.

Communications mean any oral or written communication between the FAA and an offeror that involves information essential for understanding and evaluating an offeror's submittal(s), and/or determining the acceptability of an offeror's submittal(s).

Contract Dispute as used herein, means a written demand or assertion by one of the contracting parties seeking, as a matter of right, payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to the contract.

Contractor as used herein, means the party(ies) receiving a direct procurement contract from the FAA and who is responsible for performance of the contract requirements.

Controversy or concern as used herein, means a material disagreement between the FAA and an offeror that could result in a protest.

Cost is the contractor's expenses of contract performance, either estimated or actual.

Cost and pricing data refers to all facts that, at the time of the price agreement, the seller and buyer would reasonably expect to affect price negotiations. Cost or pricing are data requiring certification. Cost or pricing data are factual, not judgmental data, and are therefore verifiable. While these data do not indicate the accuracy of the prospective

contractor's judgment about estimated future costs or projections, they do include the data utilized to form the basis for that judgment. Cost or pricing data are more than historical accounting data; they are all the facts that can be reasonably expected to contribute to the soundness of estimates of future costs and to the validity of determinations of costs already incurred.

Demand, as used in a mission needs analysis, is the projected demand for FAA products, service, and capacity.

Design to cost is a concept that establishes cost elements as management goals to best balance between lifecycle cost, acceptable performance, and schedule. Under this concept, cost is a design constraint during the design, development, and production phases, and a management discipline throughout the system lifecycle.

Discriminating criteria/key discriminators are those factors expected to be especially important, significant, and critical in the ultimate selection decision.

Dispute as used herein, means a *Contract Dispute* or *Claim*.

Dispute resolution officer is a licensed legal practitioner who is a member of the Office of Disputes Resolution, and who has authority to conduct proceedings which, if agreed to by the parties and concurred in by the FAA Administrator, result in binding decisions on the parties.

Dominant business is a controlling or major influence in a market in which a number of businesses are primarily engaged. Factors such as business volume; number of employees; financial resources; competitiveness; ownership or control of materials, processes, patents, and license agreements; facilities; sales territory; and nature of the business must be considered.

FAA disputes resolution system is a process established within the FAA for resolving protests of FAA Screening Information Requests (SIRs) and contract awards, as well as contract disputes.

FAA Office of Dispute Resolution is an independent organization within the FAA, reporting to the FAA Chief Counsel, which includes an appropriate number of dispute resolution officers.

Fee is compensation paid to the consultant for professional services rendered.

Firm, as defined for architect-engineering services, is any individual, partnership, corporation, association, or other legal entity permitted by law to practice the professions of architecture or engineering.

Goal oriented, as used in the learning system, is targeted to identify learning opportunities which will increase the workforce's level of competence.

In-service decision is a corporate decision that involves the final step in introducing new capabilities into the National Airspace System (NAS) and in interfacing with users (e.g., ATS, AVR, ARP, ACS), pilots, manufacturers, airline industry, and the flying public.

Information other than cost or pricing data is any type of information that is not required to be certified, that is necessary to determine price reasonableness or cost realism. This includes pricing, sales, or cost information, and cost or pricing data for which certification is determined inapplicable after submission.

Integrated Product Development System (IPDS) is a cross functional "teams leading teams" infrastructure system.

Integrated Product Team (IPT) is comprised of those "core" program disciplines responsible for the procurement of program needs. Evaluators and advisors selected by the IPT to assist in the evaluation are not considered members of the IPT, but rather support to the IPT.

Interagency agreement is a written agreement between the FAA and another Federal agency where the FAA agrees to receive from, or exchange supplies or services with, the other agency, and FAA funds are obligated.

Interested party is an offeror that has a direct economic interest in the procurement.

Intra-agency agreement is a written agreement between the FAA and Office of the Secretary of Transportation or another Department of Transportation operating administration where the requesting organization agrees to provide or exchange supplies or services with the FAA, and FAA funds are obligated.

Joint Resources Council (JRC) is a body responsible for making corporate level acquisition decisions. The JRC is made up of the Associate Administrators representing all lines of business investment areas of the agency (Air Traffic Services, Regulation and Certification, Airports, Administration, Research and Acquisitions, and Commercial Space Transport) and the Director of the Office of Financial Services.

Learning system is the same as lifecycle acquisition workforce learning system (see below).

Lifecycle acquisition approach is the practice of taking into account the total lifecycle of the product or service being provided.

Lifecycle acquisition workforce learning system is a learning based methodology aimed at increasing the effectiveness and productivity of the workforce. It has three major characteristics: mission driven, competency based, and goal oriented.

Lifecycle cost is the total cost to the FAA of acquiring, operating, maintaining, supporting, and disposing of items being acquired.

Lifecycle acquisition process is a process in which a mission need is defined and translated into a most advantageous solution. This system is in a continuous loop of development and improvement until it is retired.

Lines of business is an organizational unit responsible for providing an integrated set of products or services. In the FAA, the following lines of business are found: Air Traffic Services, Regulation and Certification, Airports, Commercial Space Transport, Administration, and Research and Acquisitions.

Market survey is any method used to survey industry to obtain information and comments and to determine competition, capabilities, and estimate costs.

Memorandum of agreement is a written document between two parties which calls for the exchange of services or goods and outlines the specific responsibilities of each party. It is used to require either party to provide assistance, equipment, or services which will not result in the obligation of funds. A memorandum of agreement is not to be executed via an exchange of letters, as is allowed for memorandums of understanding, and is not to be used in lieu of a contract or contract modification.

Memorandum of understanding is a written document between two parties which establishes policies or procedures of mutual concern, or confirms mutual aid and assistance activities. It is not used to require either party to provide assistance which would result in the obligation of funds. An exchange of letters may be used in lieu of a memorandum of understanding, providing the letters contain all essential elements and conditions, but is not to be used in lieu of a contract or contract modification.

Metrics are measurements of indicators of the status of a project or procurement. Metrics are generally quantitative but can be qualitative.

Mission driven, as used in the learning system, is driven by the mission of the acquisition organization. This mission is to continuously and efficiently modernize complex systems.

Mission need analysis, as part of the lifecycle acquisition process, is a comprehensive process to identify and prioritize the most critical deficiencies to be overcome in support of the mission. It includes identification of supply and demand for services needed, as well as shortfalls between supply and demand for services.

Mission need determination, as part of the lifecycle acquisition process, is characterized as a strong, full-time, forward-looking, analytical capability that evaluates on a continuous basis the capacity of the NAS to satisfy existing and emerging demand for services. This determination is the identification, validation, and qualification of shortfalls, including their impact on FAA operation. If the shortfall is not satisfied, a determination of the criticality and time frame must be resolved.

Multi-year contracts are contracts covering more than one year but not in excess of five years of requirements. Total contract quantities and annual quantities are planned for a particular level and type of funding as displayed in a current five year development plan. Each program year is annually budgeted and funded and, at the time of award, funds need only to have been appropriated for the first year. The contractor is protected against loss resulting from cancellation by contract provisions, which allows reimbursement of costs included in the cancellation ceiling.

Multi-year funding refers to Congressional authorization and appropriation covering more than one fiscal year. The term should not be confused with two-year or three-year funds which cover only one fiscal year's requirement but permit the Executive Branch more than one year to obligate the funds.

Neutral means an impartial third party, who serves as a mediator, fact finder, or arbitrator, or otherwise functions to assist the parties to resolve the issues in controversy. A neutral person may be a permanent or temporary officer or employee of the Federal Government or any other individual who is acceptable to the parties. A neutral person shall have no official, financial, or personal conflict of interest with respect to the issues in controversy, unless such interest is fully disclosed in writing to all parties and all parties agree that the neutral person may serve.

No-year funding refers to Congressional funding that does not require obligation in any specific year or years.

Nondevelopmental item is an item that has been previously developed for use by federal, state, local, or a foreign government and no further development is required.

Nonrecurring costs are those production costs which are generally incurred on a one time basis and include such costs as plant or equipment relocation, plant rearrangement, special tooling and special test equipment, preproduction engineering, initial spoilage and rework, and specialized workforce training.

Neutral means an impartial third party who serves as a mediator, fact finder, or arbitrator, or otherwise functions to assist the parties to resolve the issues in controversy. A neutral person may be a permanent or temporary officer or employee of the Federal Government or any other individual who is acceptable to the parties. A neutral person shall have no official, financial, or personal conflict of interest with respect to the issues in controversy, unless such interest is fully disclosed in writing to all parties and all parties agree that the neutral person may serve.

People-Capability Maturity ModelSM is a model which serves as the framework for the lifecycle acquisition workforce learning system. This model, adapted from the Software Engineering Institute's Software Capability Model, is a maturity framework that describes the key elements of managing and developing the human talent of an organization. The model identifies five levels of maturity that an organization must undergo to provide a continuous learning environment. These levels are initial, repeatable, defined, managed, and optimized.

Price equals cost plus any fee or profit involved in the procurement of a good or service.

Primary engineer or principal consultant is a firm which is held responsible for the overall performance of the services, including that which is accomplished by others under separate or special service contracts.

Procurement contract (contract) is a legal instrument used to acquire goods and services for the direct benefit or use by the FAA.

Property loan agreement is a written agreement under which the FAA provides and/or receives property on a temporary basis, and Federal funds are not obligated.

Protest is a written, timely objection submitted by a protester to an FAA SIR or contract award.

Protester is a prospective offeror whose direct economic interest would be affected by the award or failure to award an FAA contract, or an actual offeror with a reasonable chance to receive award of an FAA contract.

Record drawings are drawings submitted by a contractor or subcontractor at any tier to show the construction of a particular structure or work as actually completed under the contract.

Recurring costs are production costs that vary with the quantity being produced, such as labor and materials.

Reimbursable agreement is a written agreement under which the FAA provides material or services to a requesting party which agrees to pay for those materials or services, and the requesting party obligates funds or promises to provide funds.

Screening is the process of evaluating offeror submittals to determine either which offerors/products are qualified to meet a specific type of supply or service, which offerors are most likely to receive award, or which offerors provide the most advantageous solution to the FAA.

Screening decision is the narrowing of the number of offerors participating in the source selection process to only those offerors most likely to receive award.

Screening information request is any request made by the FAA for documentation, information, or offer for the purpose of screening, and for determining which offeror provides the most advantageous solution for a particular procurement.

Selection decision is the determination to make an award, by the Source Selection Official (SSO), to the offeror providing the most advantageous solution to the FAA.

Set-aside for small businesses is the reservation of an acquisition exclusively for participation by small businesses.

Shortfalls, within the mission needs analysis, refers to the difference between the perceived supply and demand.

Simplified purchases are those supplies or services of any nature that are smaller in dollar value, less complex, shorter term, routine, or are commercially available.

Single-source contracting is to award a contract, without competition, to a single supplier of goods or services.

Small business is a business, including its affiliates, that is independently owned and operated and not dominant in producing or performing the supplies or services being purchased, and one that qualifies as a small business under the Federal Government's criteria and standard industrial classification size standards.

Standardization is the practice of acquiring parts, components, subsystems, or systems with common design or functional characteristics to obtain economies in ownership costs.

Supply, as used in the mission needs analysis, is a determination of the ability of the FAA to provide products, service, or capacity.

Technical leveling is the act of helping an offeror to bring its proposal/offer up to the level of other proposals/offers through successive rounds of communication, such as by pointing out weaknesses resulting from the offeror's lack of diligence, competence, or inventiveness in preparing his proposal.

Technical transfusion is the FAA's disclosure of technical information from one submittal that results in the improvement of another submittal.

Termination for convenience is the procedure which may apply to any FAA contract, including multi-year contracts. As contrasted with cancellation, termination can be effected at any time during the life of the contract (cancellation is effected between fiscal years) and can be for the total quantity or a partial quantity (whereas cancellation must be for all subsequent fiscal year quantities).

Termination liability funding refers to obligating contract funds to cover contractor expenditures plus termination liability, but not the total cost of the completed end items.

Termination liability is the maximum cost the FAA would incur if a contract is terminated. In the case of a multi-year contract terminated before completion of the current fiscal year's deliveries, termination liability would include an amount for both current year termination charges and out year cancellation charges.

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Unauthorized commitment is an agreement entered into by a representative of the FAA who does not have the authority to enter into contracts or leases on behalf of the FAA.

Very small business is a business that has been in operation for less than five years and whose size is no greater than 50 percent of the numerical size standard applicable to the standard industrial classification code assigned to a contracting opportunity.

APPENDIX F – ACRONYMS

AIP	Airport Investment Plan
CIP	Capital Investment Plan
CO	Contracting Officer
DOT	Department of Transportation
F&E	Facilities and Equipment
FAA	Federal Aviation Administration
FAE	Federal Acquisition Executive
GFI	Government Furnished Information
GFP	Government Furnished Property
IOT&E	Independent Operational Test and Evaluation
IPDS	Integrated Product Development System
IPP	Integrated Program Plan
IPT	Integrated Product Team
JRC	Joint Resources Council
LRRAP	Long Range Resource Allocation Plan
MNS	Mission Needs Statement
NAILS	NAS Integrated Logistics Support
NAS	National Airspace System
NTSB	National Transportation Safety Board
OMB	Office of Management and Budget
OPS	Operations and Maintenance Plan
P-CMMSM	People - Capability Maturity Model SM
P3I	Preplanned Product Improvement
PSM	Procurement Strategy Meeting
PT	Product Team
QVL	Qualified Vendor List
RE&D	Research, Engineering, and Development

RMA	Reliability, Maintainability, and Availability
SIC	Standard Industrial Classification
SIR	Screening Information Request
SSO	Source Selection Official
T&E	Test and Evaluation
U.S.C.	United States Code



